The Beaver

SUMMER 1964

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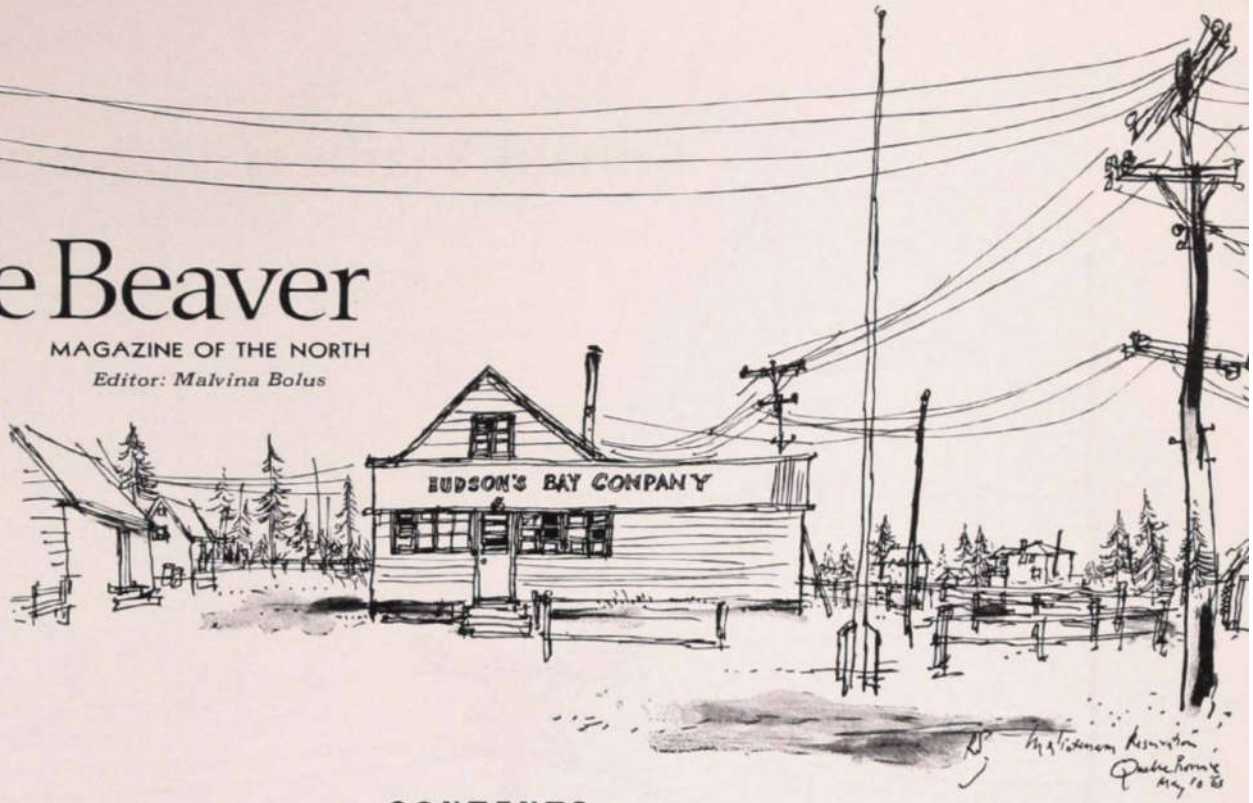
The Beaver

MAGAZINE OF THE NORTH

Editor: Malvina Bolus



SUMMER 1964
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H B C customer at Maliotenam (the store is shown on this page) drawn by Ronald Searle

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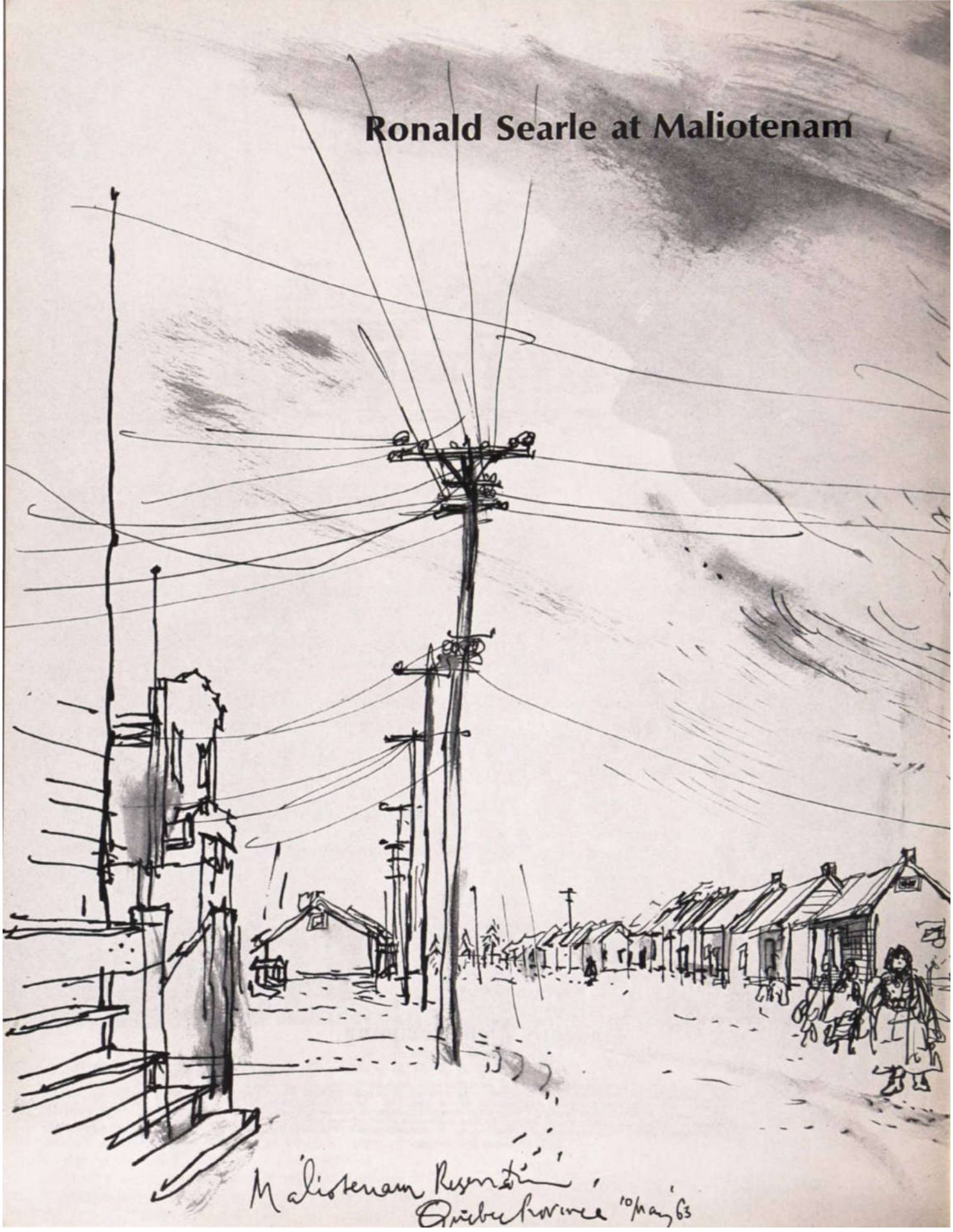
Ronald Searle at Maliotenam



British artist Ronald Searle, who first found fame in his creation of those ghoulish girls in gym slips—the gargoyles of St. Trinian's School—abandoned his role as cartoonist some time ago to use his matchless talents as a "pictorial reporter". Since then many legendary figures have been uncomfortably impaled on the sharp nib of his drawing pen, from oratory-spouting Irish pub poet to oil-spouting Texan millionaire, from sun-worshipping vacationist in Florida to Mammon-worshipping titan on Wall Street.

Last summer he was asked to take his first close look at Canada and record his impressions of the country and its people for the American magazine *Holiday*. He visited some of the larger cities; then wound up his tour at Maliotenam, an Indian Reserve near Sept-Iles on the north shore of the St. Lawrence. This series of Maliotenam "notes"—as the artist modestly calls them—is the first set of original Searle drawings to be published in a Canadian periodical.

Hudsons Bay Customers
Kaliotenam . 10 may
' Penny on tin Bottle '

Ronald Searle found much to interest him in the way of life in the little community of Maliotenam, centred to some degree around the Hudson's Bay Company store. Here the trappers bring their fur collections—beaver and fox, muskrat and mink—for grading and purchase by the manager, Gerard Berubé. The Bay also serves as a social gathering point for both young and old Reserve residents—members of the Montagnais tribe—who arrive early and stay late to chat, drink soda pop, and make their purchases of staple goods and occasional small luxuries. Some of these customers are featured in these character sketches and on the cover.

R.S.
Maliotenam Reservation
Quebec Province
10 May 63

THE CHILKOOT TRAIL THEN AND NOW

BY DOW V. BAXTER

professor of wood technology at the University of Michigan. Old photographs courtesy University of Washington Library, others by the author unless credited.

HAVE YOU ever wondered what the once proclaimed death-dealing trail of Klondike gold rush days looks like now? Sixty-five years later the trail presents a brighter side—so we found while continuing a continental journey of studies of forest fungi.

In place of a Yukon stove, a sack of flour, some rice, beans, and a .38 revolver, Al Railsback, graduate student in botany at the University of Vermont, and I were packing specimens, bed rolls, concentrated dried food, and heavy camera equipment out of Sheep Camp. On the red side of the ledger, we returned to Dyea and Skagway without a single nugget in our pokes.

To thousands of fortune hunters of '97 and '98, Sheep Camp was a city of tents, a few cabins, saloons, and one, two or many hotels, depending upon the month they reached the settlement. The first and foremost of these was the Seattle Hotel.

"Ours, the Seattle," explained Ben Card, now 84 years old and living in Seattle, Washington, "was a 12 by 14 tent stretched over a framework of logs. We covered the ground with poles and when we got time to whipsaw some lumber, we floored them over.

"Dad and mother operated the Seattle, but the Cards always credited mother for packing the sock for the family. At seventeen, I got me a horse; did some 'packing' and kept our restaurant going by buying food from licked stampeders. Before leaving the hotel of a morning, I'd take a hundred, maybe two hundred dollars from our valise. Then I'd keep an eye open for the not-too-hard-to-find discouraged, and often sick, newcomer who wanted to sell his outfit before turning his back on the north.

"The day would begin early. Dad would roll out of bed about three in the morning, get the fire going and the mush water on. Then mother would get up and start breakfast. When Dad flipped the tent flaps back, Sheep Camp knew that our restaurant was open for business.

"Our rooming accommodation consisted of bunks three tiers high. Each bunk was provided with straw and one blanket. We charged a dollar for each bunk. When these were filled, late comers would pay a dollar, furnish their own blanket and sleep on the floor—but out of the weather.

"Man-o-man," Ben would say, "time was scarce. For about three months there we didn't have time to even count our money. But we knew that the valise was full of gold, some paper, and a little silver and we knew, too, that our suitcase was partly filled."

Ben, now expressing more than usual happiness with his eyes, would continue: "Your asking about the Trail makes me re-live Sheep Camp. I've wished thousands of times I could go back."

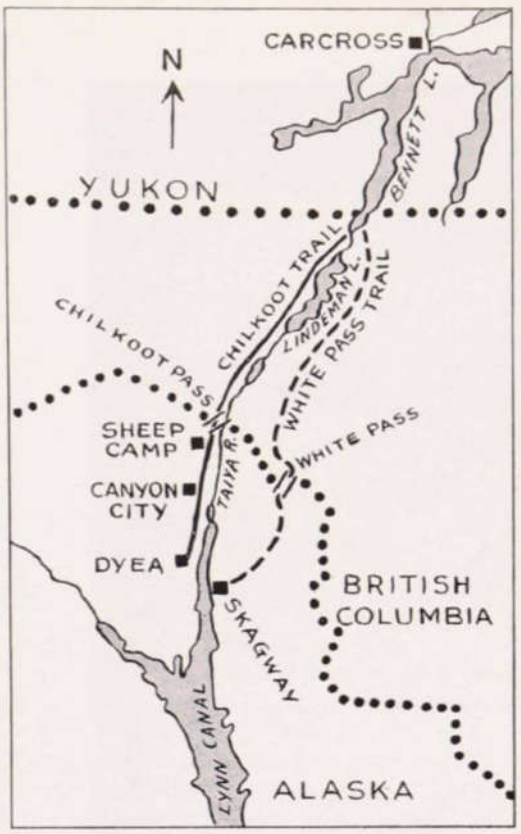
To the world today, Sheep Camp means nothing. Yet it was Sheep Camp and the rough stretch of four or five miles beyond to the summit that provided the lasting image of a line of burdened fortune-seekers silhouetted against the snow as they plodded up to the Chilkoot Pass. Steps had been cut in the icy slope, Ben explained to me, and these literally led to heaven for some, while others landed in the gold creeks of the Klondike.

But in spite of the hardships of the trail, there was inspiration in the news coming out of the hills.

"Will find gold in slabs" was headlined back in Seattle in the *Daily Times* of 16 September 1897. The article quoted a Californian who planned to return north to search for the mother lode. "Somewhere up in the mountains where the Klondike gold has come from, I believe that, in years to come, quartz ledges will be discovered that will carry the yellow metal, not in strings, but in slabs." In Dyea, Alaska, beginning of the trail, the headline "Hope for All" was printed in the newspaper dated 26 March 1898.

The final ascent to Chilkoot Pass. At this camp known as The Scales packs were readjusted for the gruelling climb to the summit. To the left of the line of laden climbers are ledges where the exhausted could step off the trail and rest. Having deposited their loads at the top the men slid back to the camp for more of their goods, marked by a stake so they could be found beneath the snow. The streak to the right of the climbing men is the groove worn by those making a quick descent.

1897-8



A pack train of 1897 in Dyea Canyon not far from Canyon City. Damage to the trees that have not been felled is noticeable. The modern photograph, below, shows glacier and forest below Canyon City, about five miles from Dyea.

Packers out of Dyea, according to Ben, would carry supplies weighing about one hundred pounds. "I used to pack about seventy-five. Horses would be loaded with approximately two hundred pounds. You see, a ton of supplies was required for entry into Canada by the Mounties stationed at the summit or borderline. This was a wise requirement because there wasn't much food in Dawson for the mushrooming population. Money was a common article, but money wouldn't buy provisions."

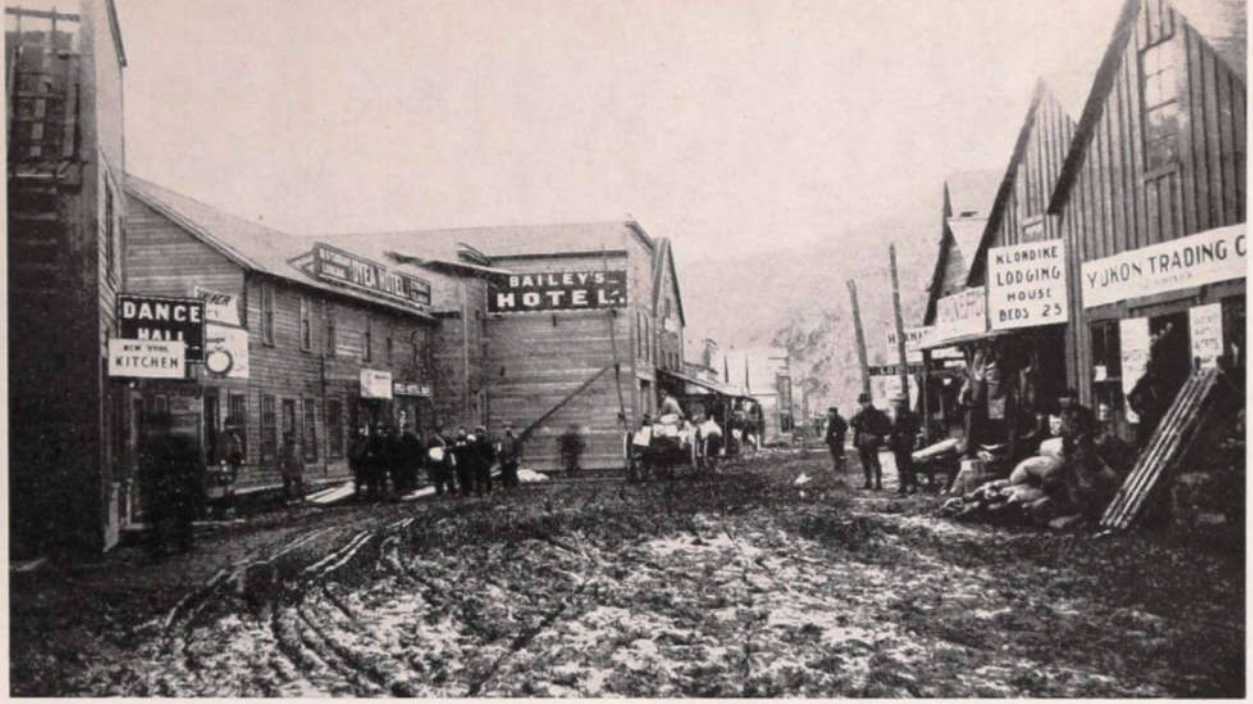
Like any trail on the rainy coast-side of the mountains, the Dyea did not improve with use. Marshy and boggy stretches soon became sink holes. To be sure, some enterprising packers would stop long enough to throw down small logs to corduroy such muddy places. In fact, I've read that charges were levied for the privilege of travelling over such improved spots, as they were for using the stairs in the packed snow at the summit.

"I don't remember that," Ben informed me, "but I'm saying that many of us would have been willing to pay such a toll. Stretches of soft mud were awful for the pack animals—the best friends of the sourdough."

Thinking of the trail of '97, Ben reflected: "An experience comes to mind I can't forget. I came upon a horse mired down to his neck in mud." His owner had given up thought of saving him, but he had taken care to keep his pack. Undoubtedly in relay fashion he had continued up the trail with his rescued duffle. "But there was that horse that I know had been a faithful partner to his master. When in need, it was the master who left him to die suffering. There was nothing I could do but to end his misery with my .38. Wish I could forget that time on the Dyea."

Today the relatively few who know the recently improved trail can be grateful to the Alaska government. In a co-operative project, employing young offenders, and

DEDMAN



Trail Street, Dyea in '98, deep in mud and lined with lodging houses and stores.

under the direction of Michael Leach, the Area Forester, the muddy sink-holes have been bridged or eliminated, brush cleared, and the old Chilkoot Trail made passable. There are plans to designate the trail a historical area, as has been done in Dyea.

If you enjoy hiking in remote places, plan to arrive at Skagway by steamer as Ben Card and thousands of others did when they came for gold. You will see the steep mountains rising from the water as they did then. The forest on the lower slopes, however, will be a different green. The new, fresh look at the old Skagway sites will be due to the fact that Alaska coast or Kenai birches and lodgepole pines have appeared following the destruction of the original darker green Sitka spruce and hemlocks by fire about 1912. Spruces and hemlocks are beginning to re-establish themselves under the protection of birches and pines.

The prospectors of '97 and '98 were presented with a choice of two trails that led to the gold fields. They could take the White Pass route directly out of Skagway or they could go by the Dyea (Chilkoot Pass) trail considered by thousands to be more practical. The Chilkoot trail originated at Dyea, then a flourishing town across the bay from Skagway at the head of the Lynn Canal. Although small boats anchored in the shallow Dyea inlet, steamers docked at Skagway. Passengers and freight had to cross by boat and barge. Today a mountain-road skirts the arm of the sea and connects Skagway with defunct Dyea.

We drove there, planning to begin our botanizing expedition near sea level. The only indication of old Dyea was a weathered, sagging house by the side of the road, brought to life for us by tangled thickets of wild roses. We could not tell if we were walking down what once had been the main street lined with lodging houses and restaurants with "meals served at all hours," a welcome sign to many who had been living on hardtack and salt pork. A contemporary guide-book gushed: "A table d'hote dinner at $1.50 is a cheap luxury, even though it consists of only bacon, beans, bread, coffee, a small piece of cheese and possibly a little dried fruit." Ben Card described it as petrified fruit! "This is a dinner worth going miles for—and if the happy miner is 'flush' he will spend an additional 50c for a drink and be transported to the seventh heaven of delight on the fumes of a 50c weed."

Now, spring flowers were in bloom everywhere. Not far from where so many pioneers lightered to shore, glistening, tiny, yellow buttercups glittered over the meadows to provide the colour at the near end of our rainbow trail. We knew that the other end arched over the Chilkoot Pass and down to the gold fields of '98. Even the galls on the lodgepole pines were yellow with spore-dust of a rust fungus. There were masses of iris with here and there pink shooting-stars that accented the blue of the iris.

As our road trail left the flats it wound itself about the tall pillars of a black cottonwood forest. These trees attain the greatest height of all our northern broadleafs and the trunks are often clear of branches for over half their length. No cathedral columns impress me so much as do the grey deeply corrugated trunks of the black cottonwood.

Much to our delight we observed the attractive Indian rice or fritillaria flowers growing in a small opening in the forest. These lily-like plants, with flowers ranging from wine-red to yellow-green, were called Indian rice because of the numerous small rice-like bulblets that occur in the ground and at the base of the single flower stalk.

The meandering forest-trail road now led us to the Taiya River. After photographing a big clump of rose-purple dwarf fireweed on a gravel bar we pulled ourselves across the river on a cable car.

"Man," Ben Card exclaimed to me later on, "if we'd had cables across the streams in '98, we could have made fortunes at every one of them. We forded the rivers in those earliest days of the trail's history. Hip boots, a part of our mining paraphernalia, saw plenty of use in wading. The water was always swift, cold and the rocks beneath slimy-slippery to make footing unsure. I always grabbed on to my pack horse's tail to steady myself.

"Others, too, found the crossing tricky. One day and when the water was a little higher than usual, two variety actresses or dance hall girls were among the strugglers trying to cross at the time I was packing across. They were scared and yelling for help. I ordered them to calm down if they wanted help from me. If they didn't do as I said, we would all be swept off our feet. Finally, I got those chippies across, but Man—I didn't mention another fording that had to be made later for I didn't want company a second time."

Across the river, the road continued along the valley-floor dominated by cottonwood and spruce forests. We should have been able to cover the first miles of level trail quickly, but time was lost because of our continually stopping to collect fungi and to photograph patches of ocean spray, several kinds of pyrolas, and elegantly blue monkshood.

Shortly after passing the old sawmill site, we spotted a recently made bear track and other tracks that were those of a wolf or a dog. In Ben Card's time they would probably have been dog tracks. "Don't forget man's friend the dog was there with us," he'd say with emphasis.

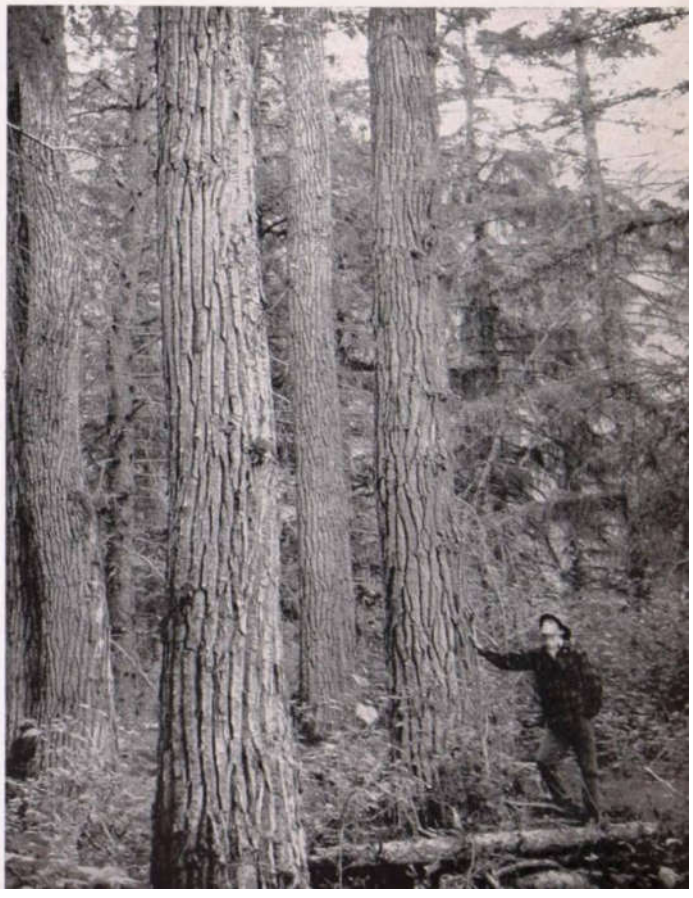
Ben, obviously, was partial to his Uncle Fred's (Fred Cavanaugh) wheel dog, Pilot. "A wheel dog," Ben would explain, "is one that worked next to the sled. Pilot always seemed to know what we were doing and why. Down on Sulphur Creek, for example, about sixty miles above Dawson, we were getting small logs out to build a cabin. My uncle fell in the river. Immediately Pilot plunged in as if to help.

"Uncle Fred grabbed some brush and climbed out, followed by Pilot who had jumped in after him. But as soon as the wet dog reached shore, he turned around and saw Uncle's cap floating down the river. In again Pilot plunged. Retrieving that cap, he dropped it at Uncle's feet, tail wagging and looking up as if to say—guess we are all here now."

Obviously, Ben loved dogs as well as horses. "With only one pack dog, I could divvy up my food with the dog, but with two—a fellow doesn't get enough to eat himself and neither do the dogs," Ben explained earnestly.

On our trail in 1963, Al and I spotted numerous cone-like flowering oddities that had sprung up among scattered alders growing on an old river bed below Canyon City. These spikes or cones were about six to ten inches tall and from a short distance away looked as if their

Indian rice or fritillaria (left below) grows in clearings in the cottonwood forest (right) through which the first few miles of trail wind. The Boschniakia glabra (below) is a parasite on the roots of alders.



Sheep Camp as it looked in April '98, stopping place for the Klondikers on the Chilkoot Trail. All that remains today of its cabins, saloons, and hotels are a few rotting timbers (below).

surfaces had been shingled with brown scales. I have never seen so many of these "flowering cones" before on or off any of the Alaskan trails I've tramped. The Russian name of the plant, Boschniakia, is as odd as its structure. It is parasitic on alder roots.

I am told that not only did the Indians eat the roots, but that they are much sought after by bears. A friend who sampled the roots reported that they taste sweet, which probably appeals to the bears who are said to leave the flowers alone.

Having photographed the Boschniakias we were wandering along the trail when we saw a bear turning over some alder roots and ambling towards us searching the ground intently. We "froze" and remembered that Ben Card had been scared by a bear on this stretch. In both cases the bears left peacefully.

Soon, and after seven, eight, or nine miles (depending on where one considers mile zero in Dyea), we approached what had been Canyon City.

We had been following a section of the trail that had been described in a '98 Dyea newspaper as the go-as-you-please way. We zig-zagged sometimes towards the river and sometimes away from the water and through the forest. Finally we crossed the river on a newly made foot-bridge to the once populous city of tents, "comfortable hotels, restaurants, saloons, and business houses". Not a building or tent stands today, but the State plans to build an overnight cabin here* for trail-hikers headed for Sheep Camp.

We poked around rusted-out stoves, tin cans, broken glass, English china, for souvenirs. Then shouldering our packs we retraced our steps over the river bridge to continue to Sheep Camp on the trail that suddenly turned upward. But before going far, we reached a spot where nature had provided a blanket of reindeer-moss (lichen) that covered the rocks and almost cushioned us into the idea of making our pause for breath an all-night stopover.

*A log cabin with eight bunks and a stove, outdoor fireplace and table were completed in a clearing about half a mile from Canyon City site later in 1963.

Overhead a bald eagle soared, cliff swallows darted after flying insects, and across the valley the eye was caught by a hanging glacier that had seemingly spilled over the mountain. Obviously the valley below owed much of its present form to ice of past times.

Alaskan glaciers were once larger than they are in their present position and subsequent recessions left bare ground that is now occupied with forests. The retreating glacier on the opposite side of the river provided a time-table picture of the forest that is developing on land being freed from ice. If one might generalize a bit, we could see that alders, willows, and cottonwoods, especially alders and cottonwoods, were among the first of the woody invaders to occupy the deglaciated areas opposite us. Farther from the ice-face in distance, and therefore farther removed in time from the period of ice coverage, Sitka spruce were the first of the conifers to appear, followed by hemlock.

We sat and mused on the patterns of succession in forest and fungi, and the modifying factors such as elevation and man-made catastrophes like a stampede for gold.

A look at Ben Card's early photographs of the trail convinces me that much of the timber along the way was skinned and debarked by the traffic and by felling of

The old, unfinished church (left) still stands at Lake Bennett where the White Pass and Dyea Trails converged and where once there was a population of thousands (above). The sign on the nearest tent reads "Dentist."

other trees for immediate use in 1897 and '98. Such injuries provided infection courts for the fungi that Al and I had been encountering all day, among them the red ring rot fungus and the Indian paint fungus used by the Tlinkits for facial painting. In other words, rot is appearing in the stands at an earlier age than if gold had not been found in the Yukon.

The long days of the northern early summer were not long enough for us under any circumstances and low hanging clouds were bringing darkness earlier this evening than usual. It was now about 9 p.m. and in the forest the trail was becoming dim. Soon after resuming our trek, we came to a one-cottonwood-log bridge that indicated that Sheep Camp was still ahead. After crossing the bridge we unpacked our bedrolls beneath some trees and ended the day.

Next morning arrived with a drizzle that quietly dripped from the tree crowns down into our faces to wake us early. Without comment, we rolled up the bags into the packs and made off for the Sheep Camp that we could not find the previous night.

Within a mile we sighted the newly built log cabin—the only structure in Sheep Camp—a sight that gave us a thrill probably akin to that experienced by the ninety-eighters when they approached the Hotel Seattle. We liked the natural (but not permanent) red stain of the recently peeled cottonwood logs and we liked the thought of having breakfast in dry quarters. Al made a fire in the '98 stove that had been rescued by the 1963 trail blazers and cooked our powdered vegetable-beef soup for an appetizer.

Sixty-five years away from the old trail of '98 and the Seattle Hotel made a big difference in the demand for bunks. Al and I were the only occupants of the cabin, the only people in Sheep Camp. Later, when I was telling Ben Card of the welcome quarters available today, of bunks to spare, and the clean camp ground he listened intently, rubbed his nose, and remarked:

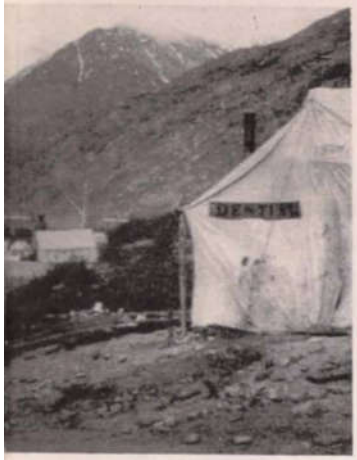
"Did I tell you about the time my good mother was disturbed almost to the brink of swearing in our overly crowded Seattle Hotel? Have I mentioned the story of the lousy preacher?

"Our Seattle Hotel bunks were filled and all floor space was taken by paying stampeders. Man—there wasn't any room to walk. Then a preacher showed up; he said he was a preacher and he said he was sick. Mother's heart strings were tugged so finally she told him to crawl in my bunk. When I crawled out the next morning, Man—I wasn't fit to pack. Mother diagnosed my ailment and Holy Smokes! It was lice! 'You got us clean people lousy. Get out you lousy preacher', Mother warned the stranger in no uncertain terms, 'and make sure you don't come back'.

"Mother knew we kept a .38 in bed, loaded and available, but neither she nor anyone of us ever had to use it for protection. In fact I've never seen anyone shot, but I've come close."

Then Ben went on to tell me about the gamblers coming over to the Chilkoot after their gangleader, Soapy Smith, had been killed in Skagway, of their shell game that his father had ended—just outside the Seattle Hotel; and of the time when the citizens of Sheep Camp ran the thief out of town, the thief having stolen another man's bed.

The worst tragedy created by nature happened above Sheep Camp on 3 April 1898. Today, tombstone-evidence



Lindeman River near Lake Bennett.

in the "Slide Cemetery" back in Dyea emphasizes the disastrous avalanche that buried over sixty people on the trail.

Prospectors must have experienced a feeling of triumph upon winning the summit, 3,700 feet above Dyea. Although the longer part of the journey lay ahead, these fortune hunters could look forward to some relatively easy sledding during the winter and to boat travel during the summer. They could build their boats upon reaching Lake Lindeman, or they could push on a few miles past the Lindeman River to Lake Bennett. The mighty Yukon River to Dawson was accessible from Lake Bennett.

Ben told of his scow trip down Lake Bennett. "I was headed for Dawson on a scow with domestic sheep. Man—I was afraid that a bear prowling along shore might smell those sheep, swim out and climb aboard. A shot wouldn't do any good. If a shot had been fired from the scow, we'd loose the sheep anyway. They'd jump overboard into the lake."

Ben's tale reminded me to ask about another point that puzzled me. Did the sudden appearance of thousands of people in the wilderness deplete the game to such an extent that the stampeders could not depend upon living off the country?

"I don't think that the ninety-eighters had anything to do with the game that was there then or with what's there now," he mused. "If game got in our way, we shot it, but everybody was in too much of a hurry to beat the other fellow to the gold fields. There was no time for hunting."

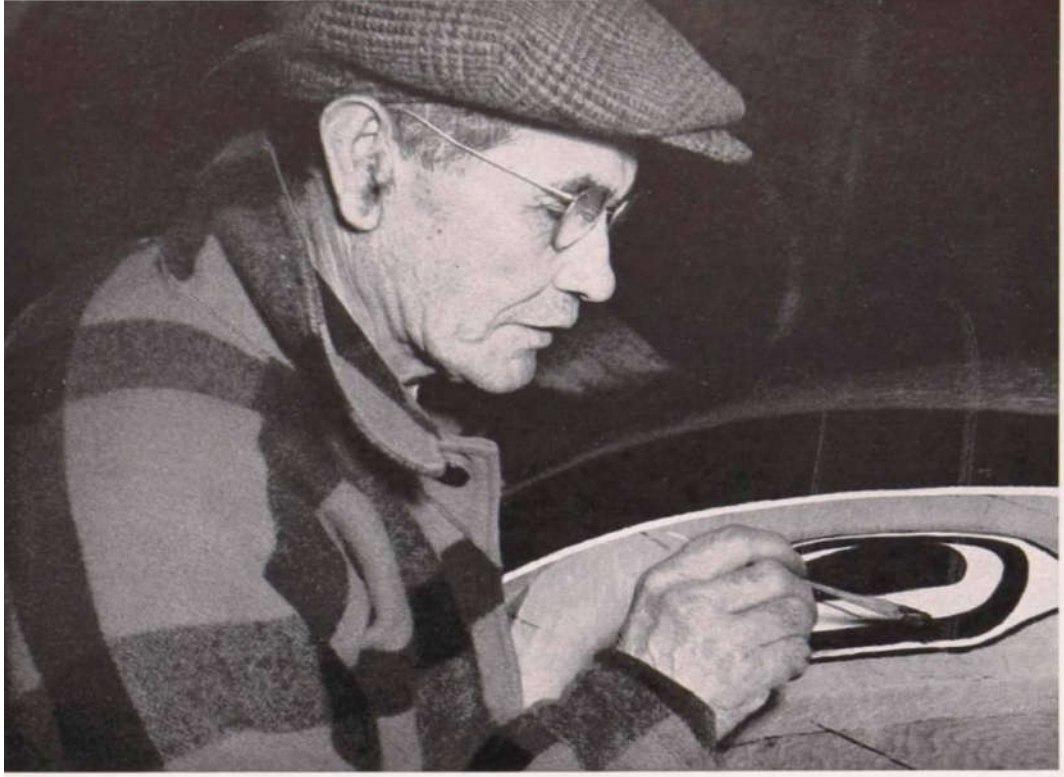
"But with the lakes I've seen on the Canadian side, directly on the trail, I suppose you had plenty of fish once over the Pass," I interjected.

"Yes, I saw some fishing through the ice during the winter of '97-98—but not as much as a fellow might think. I sure could have used some. There were times when I was hungry. Once not much was eaten for three days and I well remember a few white fish that had been caught through a hole at the end of Lake Lindeman. I finally persuaded the owner to sell four fish; one for myself and the others for the three in our party. Those fish brought a dollar a pound. Soon I had my fish on a stick over a good fire, but I didn't get it done—guess I was really hungry. I ate the cooked outside down to raw meat—it made me sick but maybe that was because I had no salt.

"I had offered the fisherman fifty cents for enough salt to sprinkle over all the fish, but was turned down. Then I raised my bid to five dollars for just enough salt to sprinkle over my one trout. Five dollars wouldn't buy the needed pinches of salt! Any wonder I got sick?"

I could not match Ben's version of a Midas story (lots of gold and no food) but I told him about our fishing not far from Lindeman River. In the time it took to burn our fire to glowing wood-coals and boil the coffee, a magnificent lake trout had been caught. Ben, in Seattle, listened as if he were about to taste that filet of trout, rolled in cereal, salted, and thoroughly cooked over our camp fire. Moreover we had salt and did not need five pieces of gold to tempt anyone into selling us his supply. Our salt had been given to us by an Indian family living on Lake Bennett.

"Man, you make living today on the old trail of '98 sound so bright" Ben went on wistfully. "I've wished thousands of times I could go back. Now, Man—you've got me really wanting to try it again." ✦



Using a brush of his own making, Mungo Martin outlines the eye on a large totem pole.

MUNGO MARTIN
artist and craftsman

BY AUDREY HAWTHORN

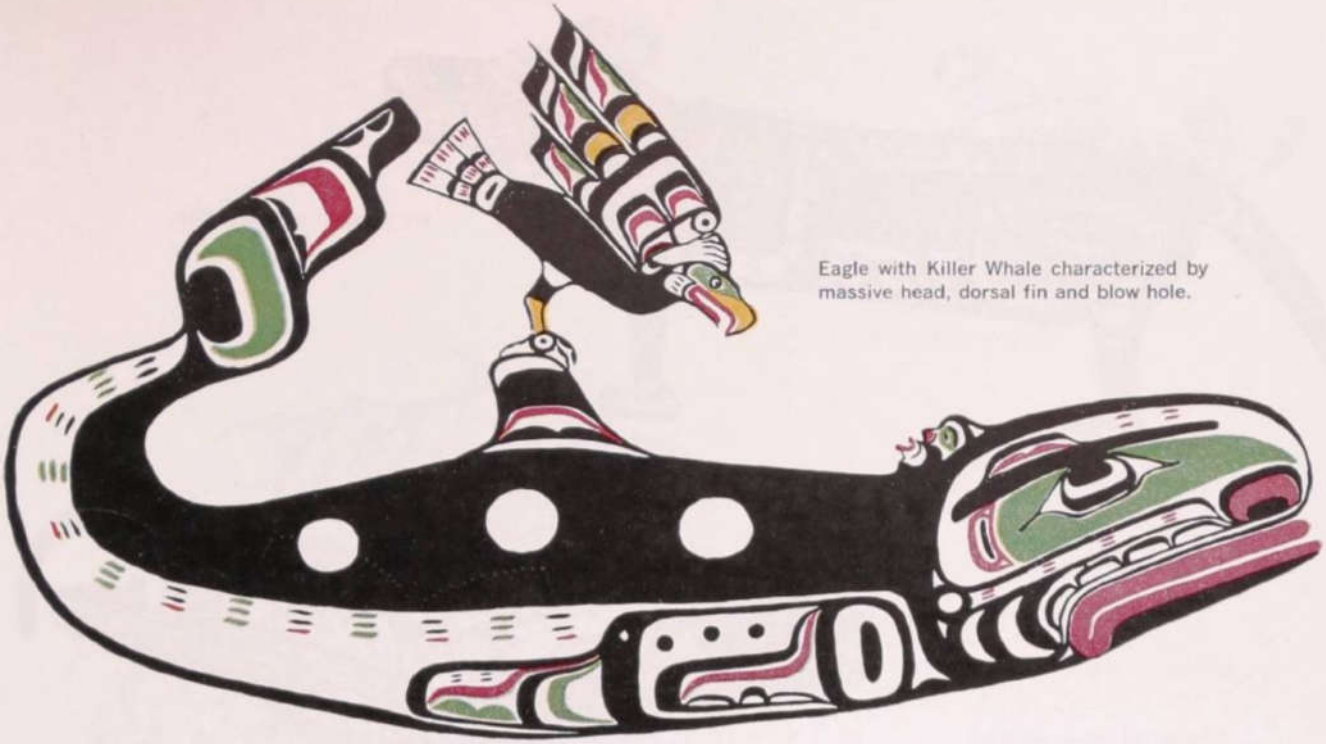
AS A MASTER CARVER, Mungo Martin, the great Kwakiutl chief NaKePenkim, has had an extensive influence. His massive totem poles are huge, handsome, and distinctive. They represent a real flowering of this complex art. Examples of his work stand in Kew Gardens, England; Maritime Museum, Vancouver; Peace Park at Blaine, Washington; Totem Pole Park, U.B.C., Vancouver; and Thunderbird Park, Victoria. Mungo Martin's influence is perpetuated by the several fine carvers now doing original and exciting work after training under him in this craft, among them, Henry Hunt and his son Tony, Douglas Cranmer, and Bill Reid.

As another part of Mungo Martin's creative disciplined artistic ability, his paintings, however, are not so well known, and should be seen and valued for themselves. They are also representative of his wish to communicate to those of the white community who were interested some facets of Kwakiutl life and tradition, and were painted partly as an attempt to depict the various beasts of mythology and legend which are the inheritance of the Kwakiutl culture. With his usual thoroughness he made sure the proper name of each creature was recorded on the picture.

The paintings here described are part of a permanent collection made for the Museum of Anthropology at the University of British Columbia in 1950. Others done later make up another collection in the Provincial Museum, Victoria, where Mungo worked for the last years of his life. He died in Victoria in August, 1963, to the sorrow of many hundreds of people. His last rites were held inside the great ceremonial house he had built and had officially installed in Thunderbird Park in 1953. (*Beaver*, March 1958). When he was carried by a naval vessel to his burial in Alert Bay, all of the flags in the harbour at Victoria were dropped to half mast. Posthumously, Mr Martin was awarded a Canada Council Medal for his outstanding achievements. He was the first Indian to whom the medal has been given.

In 1948, Mungo Martin was sixty-seven years old. Living at Fort Rupert on the northeast coast of Van-

Mrs Hawthorn is curator of the Museum of Anthropology at the University of British Columbia. Photographs of Mungo and Mrs Martin by the university department of extension.



Eagle with Killer Whale characterized by massive head, dorsal fin and blow hole.

Tsonoqua is a giantess who carries away children but who may also bring good fortune. Here, with her child in a basket, she is depicted as an underwater character facing Octopus.

Wolf-shaped big feast dish.

Ceremonial mask depicting
Raven and Q'olos, two supernatural birds.
Raven was particularly important
in Kwakiutl mythology.

Sea-Bear, underwater counterpart of
the land creature with claws and fangs,
and spine represented by a fish.
Bear is meeting an eel.

Mask of Sisiutl the double headed serpent who was especially powerful and an aid to warriors.

Sea-Eagle, with curved eagle beak and pointed wings. This eagle of the underwater world also has scales and fish vertebrae.

Sea Lion, whose massive flippers are a distinguishing characteristic.

Bee Man Masks, used in dances depicting
different animals of Kwakiutl myths.
Often several dancers at once mimed bumble bees.

Sea Otter, with typical otter tail,
lies on his back with a sea-urchin on his chest.

couver Island, holding one of the highest ranking positions among the Kwakiutl people there, he was fishing for a living; the new culture seemed to have no need for the services of a skilled artist and craftsman.

In that same year, funds were available at the University of British Columbia for the restoration of some Kwakiutl totem poles. Mungo was invited to come down and supervise this project. From the day of his arrival, it was clear that he was a person of unusual knowledge, skill, and energy. After some months occupied in the restoration work, he was commissioned to carve two new poles of his own devising for the Totem Pole Park on the campus. At this point Mungo's wife, Abayah, came to Vancouver to live, and they were then with the University for the following year, a year which brought considerable richness and liveliness into the lives of those closely associated with them.

Each day Mungo went to the long shed where he was carving forty-foot cedar logs into totem poles representing some of his own family history. Some days Abayah went to the Museum, where she wove cedar bark mats, blankets, and a form of Chilkat blanket which she had learnt to weave in her girlhood. For both of them, an eight-hour working day was not long enough to contain their interest, vitality, and creative busyness. At night Abayah would knit, embroider, or sew. Mungo would carve an endless succession of small pieces; totem poles, canoes, figures, masks. He made many items for the Museum. At the beginning of each day when we drove the Martins to their places of work they had something new to show us, with pleasure, fun, and interest. Reading no language, caring nothing for a radio or television, they were never bored or dull. Mungo did have a tape recorder, and some nights he sang, communicating what he was singing and its place in the ceremonial life of the Kwakiutl. He was a profound student of Kwakiutl custom and etiquette.

At one period in his life on the University of British Columbia campus Mungo felt unwell and was put into a hospital for observation. During this time he complained of boredom, so a large notebook and paints were taken to him. In his hospital bed he began the drawings which so interested him, then and later. Early ones were in coloured pencil; later, when he left his bed, he continued the series in water-colours.

The subject-matter of these paintings is the supernatural beings of clan and family crest. These are, in fact, the subject-matter of all Kwakiutl art. They are painted in the clear vigorous outlines and forms which also characterize Kwakiutl carvings. They are limited to the

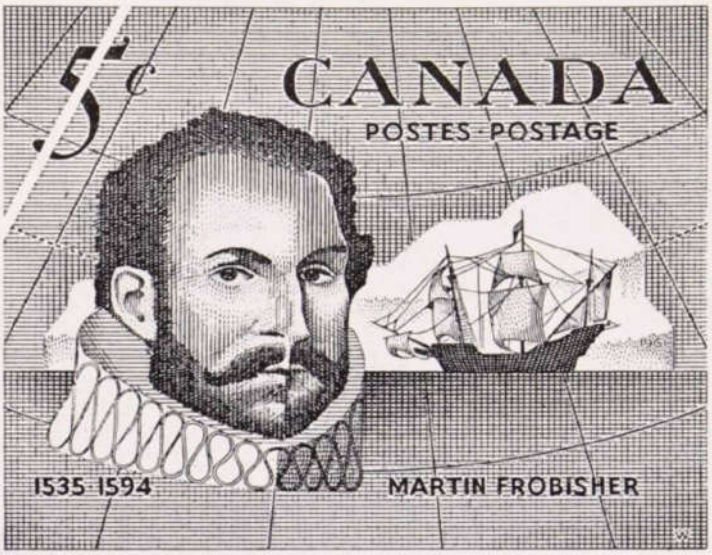
Abayah Martin finishing off the Kwakiutl version of a Chilkat blanket that she wove.

two or three colours of Kwakiutl traditional choice: black, red, green, and occasionally yellow.

Each animal is depicted within the tenets of Kwakiutl tradition, using the conventional symbols by which the animal is to be recognized by its Kwakiutl audience: the dorsal fin and the blow hole for the killer whale; distinctive beaks, feathers, and claws for birds; fins, scales, and a rudder-like tail for swimming sea creatures.

Painting on a flat two-dimensional plane was not quite new. In the traditions of Kwakiutl craftsmanship, painting was sometimes used apart from carving, the latter being the primary craft. In the old culture, painting of flat designs was employed on house fronts, theatrical curtain backdrops used in ceremonies, cedar mats used for hangings and bedding; and on shirts, aprons, hats, boxes and dishes. All, occasionally, had a flat, painted treatment of these symbolic animals.

To an artist skilled in the complexities of carving and painting in wood, the use of paper and paint as a medium is not particularly challenging. Other North West Coast artists have used them in the past, and continue to do so. The special significance of Mungo's paintings is in the vigour and vitality of this traditional painting, and in the range of mythological creatures which he has depicted. These communications to us add to our knowledge and appreciation of this strong Kwakiutl tradition, and increase our indebtedness to the artist and craftsman: Mungo Martin. ◆



A commemorative postage stamp issued last year.

BY ALAN COOKE

now doing research in England on a Laval University fellowship, prepared with Dr Stefansson a short biography of Sir Martin Frobisher.

CANADA'S FIRST GOLD RUSH

THE FIRST ATTEMPT—and the first failure—to develop the mineral possibilities of Canada occurred nearly four hundred years ago when Martin Frobisher led a gold rush to Baffin Island. The history of this premier mine promotion set a pattern often followed in the generations to come.

Commercial spirit ran high in Elizabethan times, and Frobisher competed in the general struggle for money, prestige, and power with a bold success that had made him famous before ever he took up polar exploration. A captain at twenty and active in the trading, privateering, and intrigues of the time, Frobisher still found time to urge wealthy merchants and persons influential at court to support him in an attempt to find a Northwest Passage. In 1574, after fifteen years of unsuccessful solicitation, he converted to his cause the influential director of the Muscovy Company, Michael Lok.

We know something about the financial arrangements of Frobisher's three voyages because they resulted in litigation. Had the voyages been profitable, no doubt these records would have been lost or destroyed with nearly all other business records of the time. For the first voyage, Frobisher and Lok had difficulty in raising £875 from eighteen of many persons asked to invest. The remaining cost, more than £700, Lok assumed personally. They built the *Gabriel*, a ship of about twenty tons, and bought the *Michael*, a ship of twenty-five tons, and a pinnace of about ten tons.

The little expedition sailed on 7 June 1576 and Queen Elizabeth herself waved them farewell. On July 1st they sighted Greenland, which Frobisher took to be Friesland, one of the non-existent islands that cluttered his inadequate charts. Near Greenland a great storm swamped the pinnace and its crew. The captain of the *Michael*, terrified by the ice, turned back and in London reported the rest of the expedition lost.

But Frobisher pushed on westward, "knowing," according to the account by George Best in 1578, "that the Sea at length must néedes haue an endyng, and that some lande shoulde haue a beginning that way." On 28 July they sighted new land, and on 11 August they entered "a greate gutte, bay, or passage" which Frobisher named for himself. It was not, as he supposed, a strait between Asia on the north and America on the south, but a huge bay, the one that continues to bear his name.

In late August some Eskimos came on board to trade. One of them agreed by signs to pilot them into the great sea to the west. But to Frobisher's astonishment and

dismay, the five seamen who rowed the native ashore all disappeared, nor did the native return. Short-handed and worried by the lateness of the season, he had to turn back without a glimpse of the Western Sea, which he would surely have believed Hudson Bay to be.

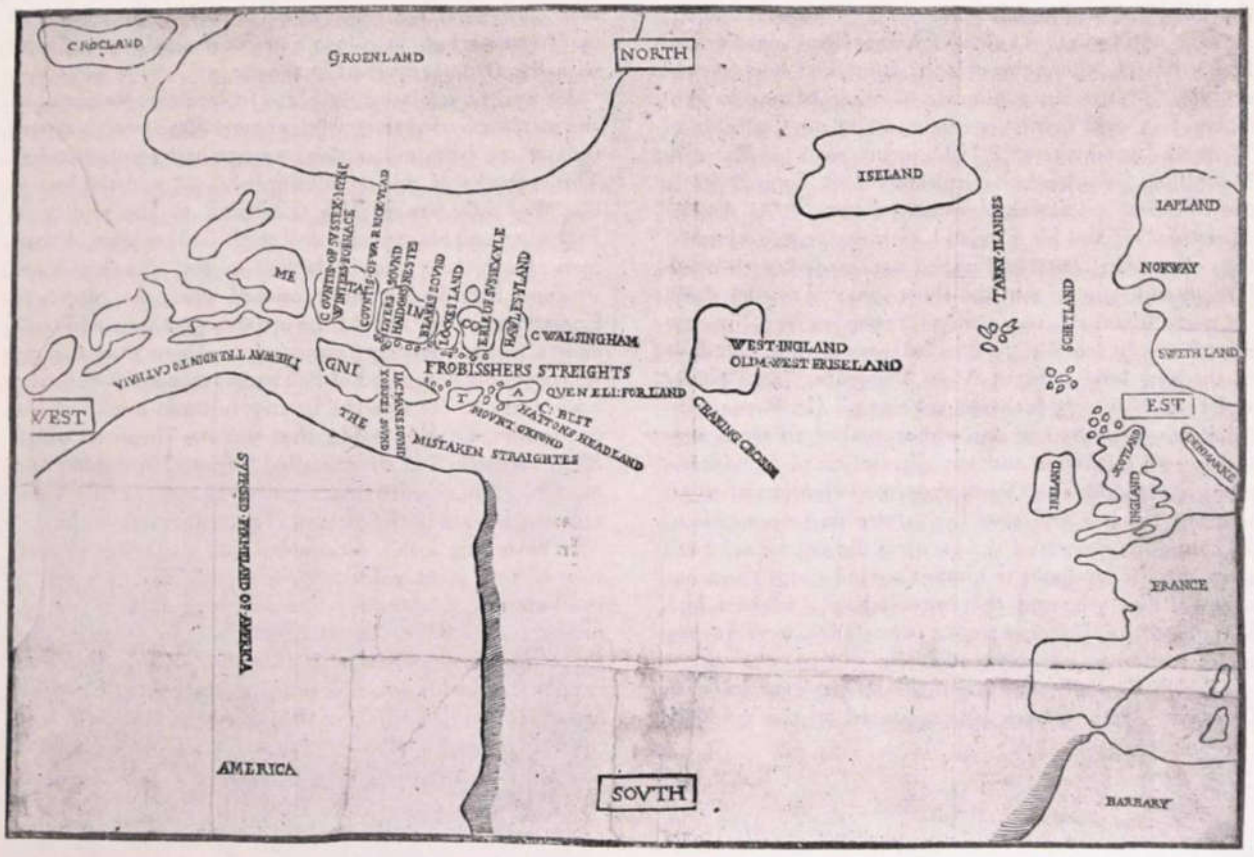
Nearly three hundred years later, in 1861-62, Captain Charles Francis Hall learnt from the Eskimos of Frobisher Bay "that five white men were captured by Innuit people . . . a great many years ago; that these men wintered on shore . . .; that they lived among the Innuits; that they afterward built an oomien (large boat), and put a mast into her, and had sails; . . . that finally they succeeded in getting into open water, and away they went, which was the last seen or heard of them."

The excitement over gold began, according to Lok's own story, on 23 October 1576 when Frobisher gave him a stone, "sayenge, that accordynge to his promesse, he dyd gyve me the fyrst thynge that he found in the newland." During the next month, Lok gave three bits of the stone to as many assayers, each of whom "made prooffe and could fynd no mettal therein." In January, Lok gave a fourth sample of the stone to John Baptista Agnello, an Italian assayer, who claimed to find gold in it, and found gold also in two more pieces. Lok marvelled greatly at this performance and asked him how he came to succeed where so many others had failed. The Italian begged the question gracefully, but his reply, "It is necessary to know how to flatter nature," and the grains of gold, satisfied Lok.

Agnello continued to flatter nature as the winter wore on. He convinced Lok that here was a rich ore, although other assayers continued to declare the stone worthless. Lok submitted reports to the Queen and entered discussions with her representatives, who were at first convinced that Agnello "dyd but play the alchemist." At length a second assayer was found to agree with Agnello and, in spite of the burden of negative professional opinion, Lok's plans began to meet with a swell of enthusiasm. On 17 March 1577, Queen Elizabeth granted a charter and subscribed £1,000 to the Cathay Company, of which Lok was named Governor. The liabilities and assets of the first voyage were entered on the books of

Map of Frobisher's discoveries published in 1578 by George Best who sailed with him. "Frobisshers Streights" on the map are the present Frobisher Bay and "The Mistaken Straightes" were later named for the man who first sailed through them, Hudson Strait.

COURTESY TRUSTEES OF THE BRITISH MUSEUM



C. F. Hall and his Eskimo companions collecting Frobisher relics on Kodlunarn (Countess of Warwick) Island in 1862.

Right: One of Frobisher's mining trenches on Kodlunarn Island in Countess of Warwick Sound, photographed in 1927.

CHICAGO NATURAL HISTORY MUSEUM

the new joint-stock company to which many persons, stirred by the rumours of gold, were eager to subscribe.

In May 1577, Frobisher, now styled High Admiral, set out with one hundred and twenty men in three ships, the *Gabriel* and *Michael*, and the *Ayde*, a ship of about two hundred tons lent by the Queen. In this voyage, "his commission directed hym . . . only for the searching of the Gold Ore, and to deferre the further discouerie of the passage untill another tyme." Finding insufficient ore on Hall's Island, where the original stone had been picked up, they prospected a number of other islands in Frobisher Bay and finally opened a mine on Countess of Warwick Island where, in 1927, members of the Rawson-MacMillan Sub-Arctic Expedition found "long drifts in the hillsides, evidences of frantic digging." On August 23rd they set sail for England with about two hundred tons of ore that they had mined and loaded, with much fatigue and lameness, in the short space of twenty days.

Queen Elizabeth commended Frobisher and his men most heartily for their successful voyage, and she gave to the new land a name, Meta Incognita, "as a marke and bounds utterly hitherto unknown." (In Roman antiquity, a *meta* marked one end or goal of an arena race course—an ingenious and apt description of Frobisher's point of return.) The Queen appointed commissioners to examine the ore and give her advice on future policy. Although the reports of the assayers did not agree, there seemed to be no doubt in anyone's mind about the great value of the ore, and the commissioners advised Her Majesty that "the cause was of importance, & ye voyage gretly worthy to be aduanced again."

Frobisher's 1578 expedition, the largest ever to enter Canadian Arctic waters, was mounted on the grandest scale: a fleet of fifteen vessels, ranging in size from twenty to four hundred tons, must have carried more than three hundred men. Captain Edward Fenton, Frobisher's lieutenant in the fleet, carried instructions to winter in Meta Incognita with one hundred men "for the better guard of those parts alredy found, & for further discouery of the Inland & secreats of those countries, & also for further search of ye passage to Cataya." But this plan was given up after a part of the colony's prefabricated housing sank with the *Dennis*, crushed in the ice.

Ice and tides placed the ships in frequent danger, but the men succeeded in stowing aboard some two thousand tons of ore from mines the assayers had recommended. This remarkable mining accomplishment and the loss of one ship only are a clear testimony to the ability of Frobisher and his captains and to the enthusiasm of their men. After their mighty labour in this dangerous adventure, they had a bitter reward when, on return to England, they learnt that the ore was worthless and their efforts wasted. Recent research has shown that the ore was probably composed of two rocks, an amphibolite and a pyroxenite. "It was the bronzy lustered mica" of the pyroxenite, Dr Roy holds, that was the "basis on which Signor Agnello and the so-called 'experts' in mining and metallurgy succeeded in perpetrating one of the most amazing hoaxes in the history of maritime adventuring."

In reviewing Lok's determined and successful promotion of two great gold-hunting expeditions, one sees a combination of shrewd judgement and naiveté, or cupidity and courage. To what extent Lok, Agnello, and the other participants were deceivers or were deceived cannot now be known. Lok put the total cost of the three expeditions at £20,160, of which he had himself con-

tributed £4,920. The third voyage alone had cost some £12,874. The relative value of £20,000 in 1578 is, in present currency, about £400,000 or some 1,200,000 Canadian dollars. Some of the investors who lost money in the Cathay Company recouped their losses in 1580 when Drake returned from his circumnavigation of the globe with a gigantic booty of captured Spanish treasure.

Frobisher made two great contributions to arctic exploration. The first lay in the fact, encouraging to others after him, that he had succeeded in bringing his large expeditions home from the icy dangers of arctic waters, where many before him had miserably perished. The second was the accidental discovery during the third voyage of a "mistaken straytes," into which, "the further [they] sayled therein, the wyder [they] found it, with great likelyhoode of endlesse continuance." Frobisher believed he might have followed this strait, if he had not been responsible for the fleet, "and dissolued the long doubt of the passage which we séeke to find to the ritch Countrey of Cataya." In 1602, the East India Company sent George Weymouth in another unsuccessful attempt to penetrate the "mistaken straytes," but it remained for Henry Hudson, in 1610, to find the end of the strait where lay the great inland sea that became his monument and his tomb.

The public, lay and learned, had listened with eager fascination to news of the Frobisher expeditions, taking a special interest in the reports of gold and in the four Eskimos brought back captive.* None of these unfortunate persons had lived long: a man, captured in 1576, soon died of a cold; another man, and a woman with a child, died within a month of the return of the 1577 voyage. But the second man had lived long enough to create a sensation by giving public demonstrations of kayak hunting, and he had the Queen's permission to kill swans, normally a royal prerogative.

The stockholders in the Cathay Company can have drawn little comfort from the thought—if, indeed, the thought chanced to cross any of their minds—that their lost money had paid for important gains in European knowledge of the New World. Of the many published accounts of the voyages, that of George Best did most to advance geographical knowledge. His reflective understanding of arctic conditions are superior to those of most later travellers in the region.

The lesson "all that glisters is not gold" has been repeated very often in Canada, to the cost of promoters like Michael Lok. The businessman has frequently lost his money in the continuing search for gold and other precious metals, but in the descriptions of new regions and new phenomena that the search has provided, the student has hugely profited. And fortunately for business as well as science, the search for gold in the Canadian north has not always been unsuccessful. ◆

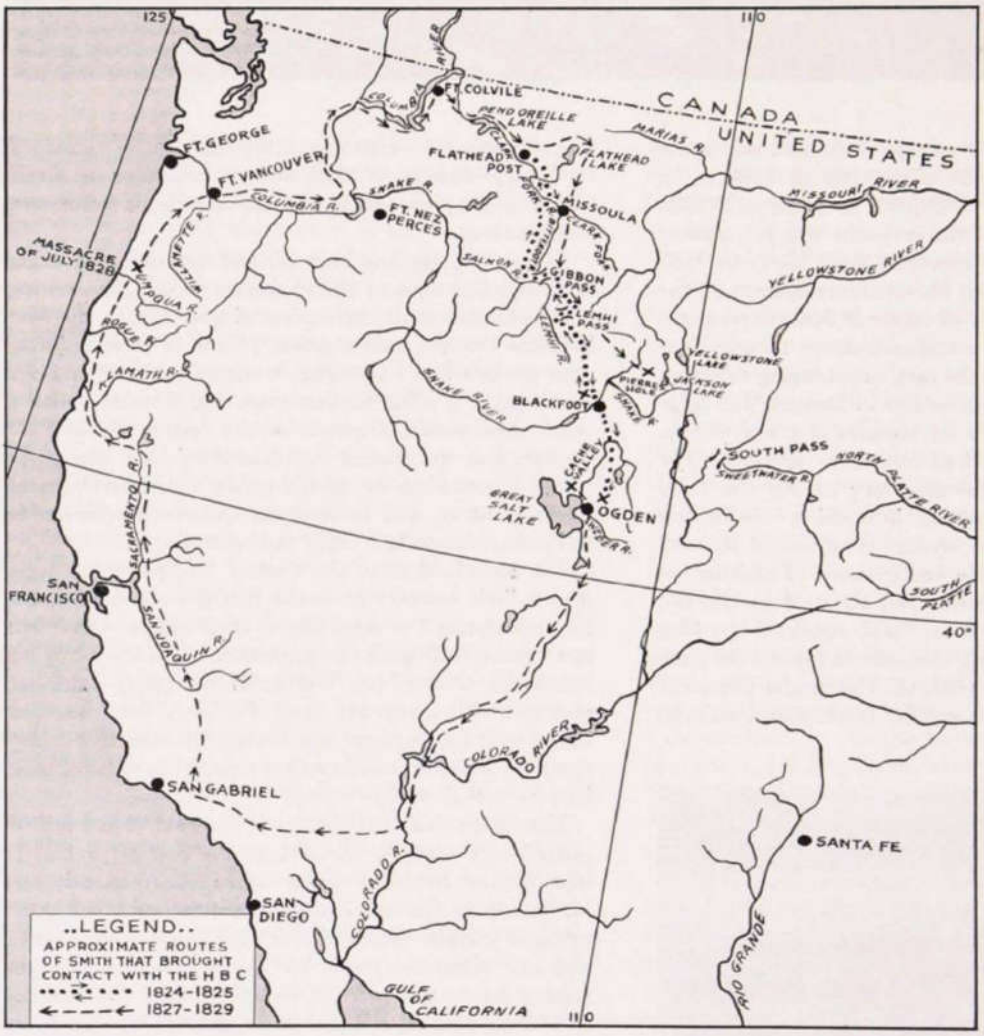
*Drawings of Eskimos, *Beaver*, Summer 1961

The foundations of Frobisher's house on Kodlunarn as seen in 1927 by the Rawson-MacMillan Expedition.
CHICAGO NATURAL HISTORY MUSEUM

JEDEDIAH SMITH and the Honourable Company

BY ALSON J. SMITH

freelance writer who has been doing research on western history for a forthcoming book



Sketch made after the death of Jedediah Smith from descriptions of those who knew him.

HISTORICAL SOCIETY OF MONTANA

JEDEDIAH STRONG SMITH, almost totally neglected by American historians for more than a hundred years after his tragic death in 1831, is only just now receiving due recognition as an explorer of the American West second only to Lewis and Clark. The greatest mountain-man of an era that included Jim Bridger, Tom Fitzpatrick, Peter Skene Ogden, Joe Meek, Bill and Milton Sublette, Black Harris, Jim Beckwourth, and Ewing Young, Jed Smith went about the vast wilderness of the trans-Mississippi West with the aplomb of "a man going to the barn," to use the late Bernard DeVoto's expression. While still in his twenties he compiled an impressive list of firsts—first citizen of the United States to traverse the Black Hills, first to reach California overland, first to travel the entire length of California and Oregon, first to cross the High Sierras, first to cross Nevada from west to east. He was also (in 1824) the effective discoverer of South Pass in the Wind River Mountains, which made possible the Sweetwater-Platte trail followed by later emigrants.

Smith, born in Chenango County, New York, of pioneer New England stock in 1799, was something of an anachronism on a lonely frontier of which it was said that God was careful to stay on His own side of the Missouri River. He was a devout Methodist who did not smoke, drink or use the profanity that was almost the *lingua franca* of the mountain-man. No squaw, no matter how attractive, was ever known to share his bed. In a time and a trade in which most men wore beards, he remained clean-shaven. In a day when illiteracy was common, he had at least the beginning of a formal education. While the men of his fur brigades drank, brawled, and told each other outrageous lies around the evening camp-fire, he quietly read his Bible, prayed, or wrote in his journal. Hiram Chittenden, great historian of the fur-trade, says of him: "Smith was one of the most remarkable men that ever engaged in the American Fur Trade. He was like . . . Stonewall Jackson in combining with the most ardent belief in, and practice of, the Christian religion, an undaunted courage, fierce and impetuous nature, and untiring energy."

This then was the young captain whose courage during the fight at the Arikara villages the previous year had earned him, at the age of twenty-four, the highest honour his fellow mountain-men could bestow—the designation "old". Old Smith he would remain in the fur trade to the end of his days.

Old Smith, leading a group of six Ashley-Henry men (employees of the fur-trading firm of William Ashley and Andrew Henry), first met the Hudson's Bay Company, in the persons of a dozen thoroughly frightened Iroquois belonging to a Snake Country Expedition led by Alexander Ross, about the end of September 1824, near the present Blackfoot, Idaho. Contrary to Company policy, Ross had detached the troublesome Iroquois to trap on their own, and they had had the ill luck to get into a brush with the Snake Indians. Now the leader of the Iroquois, "Old Pierre" Tivanitagon (after whom Pierre's Hole in the Tetons was named), asked Smith to convoy his forlorn band back through the hostile Snake country to Ross's main camp. In return, Old Pierre offered Smith what pelts the Iroquois had left in their caches. The American accepted, and a short time later rode into Ross's camp with the dejected Iroquois and Ross's men who had been sent to find them.

In Smith, Ross saw a buckskin-clad, six-foot, sinewy Yankee, clean-shaven, deeply tanned, blue-eyed, brown-haired, with an aquiline nose set in a long face scarred by a nearly-fatal encounter with a grizzly bear. In Ross, Smith saw a tired, irritable, middle-aged Scot who had come from New York to the Columbia on the ill-fated *Tonquin* in 1811, had clerked for the North West Company after the British had taken Astoria, had come over to the Hudson's Bay Company after the merger of 1821, had been in charge at Fort Nez Perces (Walla Walla) until 1823, and since then had been the chief advocate of the Company's Snake Country Expeditions. Ross was personally courageous but he was prejudiced and tart of

tongue, and he lacked a quality which the young American captain had in abundance—the habit of command.

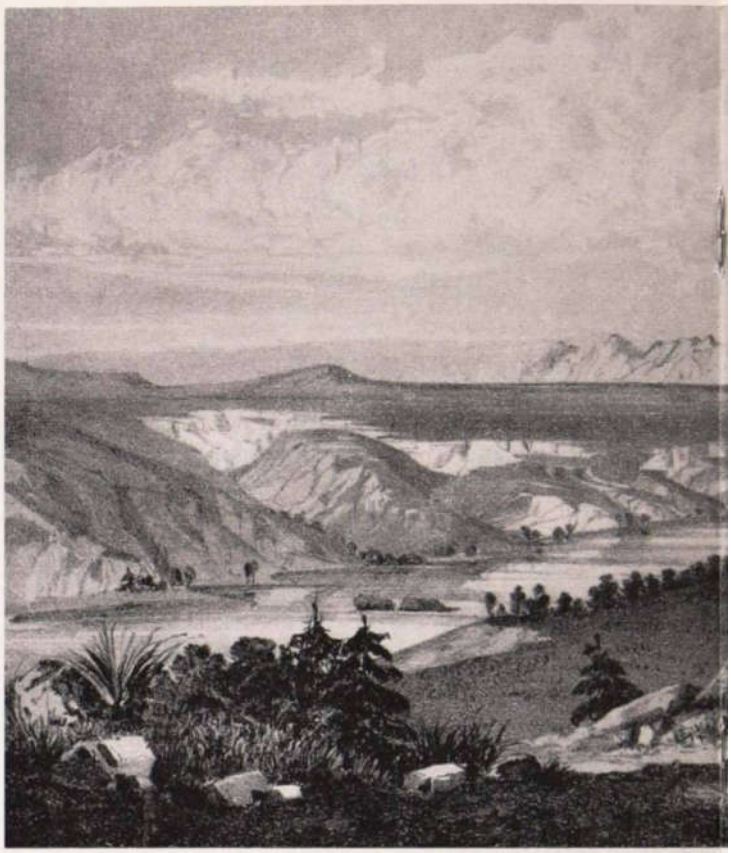
Ross had always had a poor opinion of the Iroquois, many of whom had drifted west as hunters and boatmen with the old North West Company. "Unruly, ill-tongued villains", he calls them in his journal. Even though he was not surprised at their returning from the long spring hunt destitute and devoid of furs, the transfer of their few pelts to the rival Americans was a blow damaging to his own and the Company's prestige. After listening to Old Pierre's lugubrious tale, Ross "questioned the Americans, who appeared to be shrewd men; they confirmed part of the Iroquois' story. Smith, a very intelligent person and who seemed to be the leading man among them, acknowledged to me to have received one hundred and five beaver for escorting back the Iroquois. . ." In his journal Ross wrote for October 15, 1824: "Today I learned that the Worthy Iroquois on meeting with the Americans, traded upwards of 100 Beaver, of which, 40 went forse [sic] horse hire 20 for Ammunition 10 for an Old Pistol 35 for Looking Glasses, Buttons, tape Needles, etc."

Smith surprised Ross by asking permission to accompany him to Flathead Post of the Clark's Fork River. There was no honourable way to refuse, so Ross gave grudging consent, while confiding to his journal his belief that this proved the Americans to be "rather spies than trappers".

At this time the Oregon Question had not been settled between England and the United States. The temporary Joint Occupancy agreed upon in 1818 was still in effect, so both Ross and Smith were within their rights in being where they were. But Smith and his men had turned up in a hunting ground that the Company had considered its own province. The American presence west of the mountains was not illegal but it was disquieting for what it symbolized.

It is not clear just why Smith wanted to accompany Ross to Flathead Post. He was not a spy, although he did report his discoveries and explorations to the Secretary of War and the Superintendent of Indian Affairs. But he was an avid cartographer and geographer, and with his own furs safely in cache, he probably welcomed the opportunity to explore and map the eastern fringes of the vast, ill-defined domain of Oregon with the experienced Ross as a guide. He might also gather useful information for his fur company.

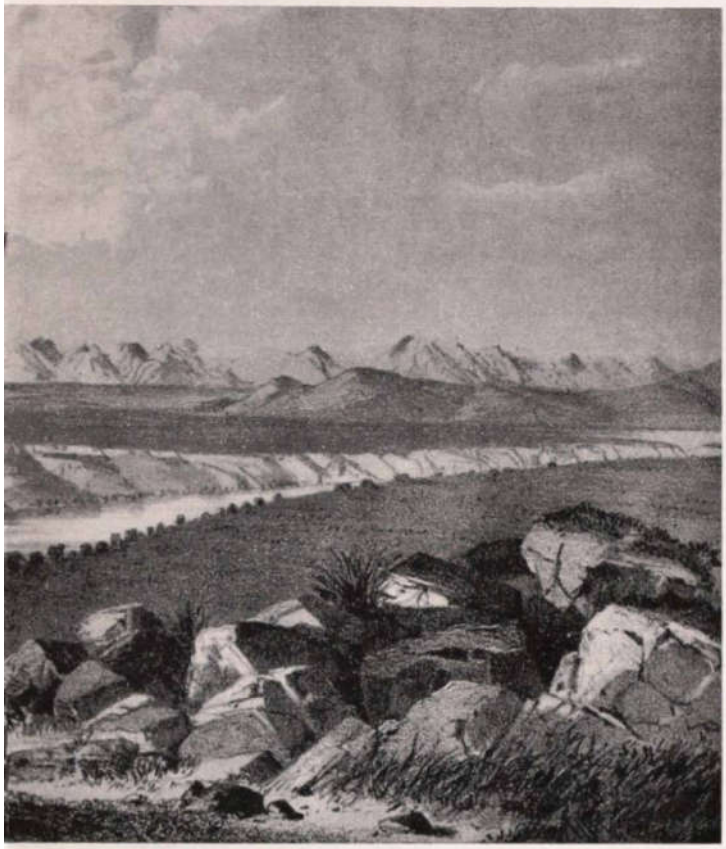
The combined parties of Ross and Smith moved northward through Lemhi Pass on 28 October and after crossing Gibbon Pass proceeded up the Bitterroot valley. They arrived at Flathead Post on 26 November 1824 to find Peter Skene Ogden there with orders from Governor George Simpson at York Factory to re-equip another Snake Country expedition and head south as soon as possible. Ross, however, was to remain at Flathead Post; Ogden would lead the brigade.



Clark Fork and ridge of mountains sout
drawing by Gustavus Sohon. Flathead F

That first meeting between Jedediah Smith and Peter Skene Ogden at Flathead Post appears now like an historic one, for it brought together the greatest of the American mountain-men and the best brigade leader the Hudson's Bay Company would produce. Ogden was five years older than Smith, short but powerfully built, with a wild sense of humour that asserted itself more often than not in broad practical joking. His *Snake Country Journals* reveal a deep streak of pessimism that was nowhere manifest in his buoyant conduct. Like Smith, he had the habit of command.

This quick return to the Snake Country was the product of a bold new strategy by Governor George



h of Flathead Lake, looking east, from a Post was on Clark Fork River near here.

Simpson. No longer would the Snake Expeditions be based on Flathead Post or Fort Nez Perces. They would pass through the Snake country to the banks of the "Spanish River" (the Colorado), then turn west and hunt north to Fort George (Astoria) at the mouth of the Columbia via the Umpqua and Willamette rivers. From the Columbia the furs would be shipped by water directly to England. Future Snake expeditions would be outfitted from the new depot on the Columbia, Fort Vancouver.

Behind Governor Simpson's new plan was the feeling that since most of the Snake country would be awarded to the United States once the Joint Occupancy ended, it might as well be trapped out as soon as possible, thus presenting the oncoming Americans with a fur desert that would constitute a barrier to their western surge. That, however, was not the whole story—it was also desirable to explore for new fur country between the Colorado River and the Pacific, to trap the Umpqua and Willamette rivers, and to establish a cheaper and more efficient water transport.

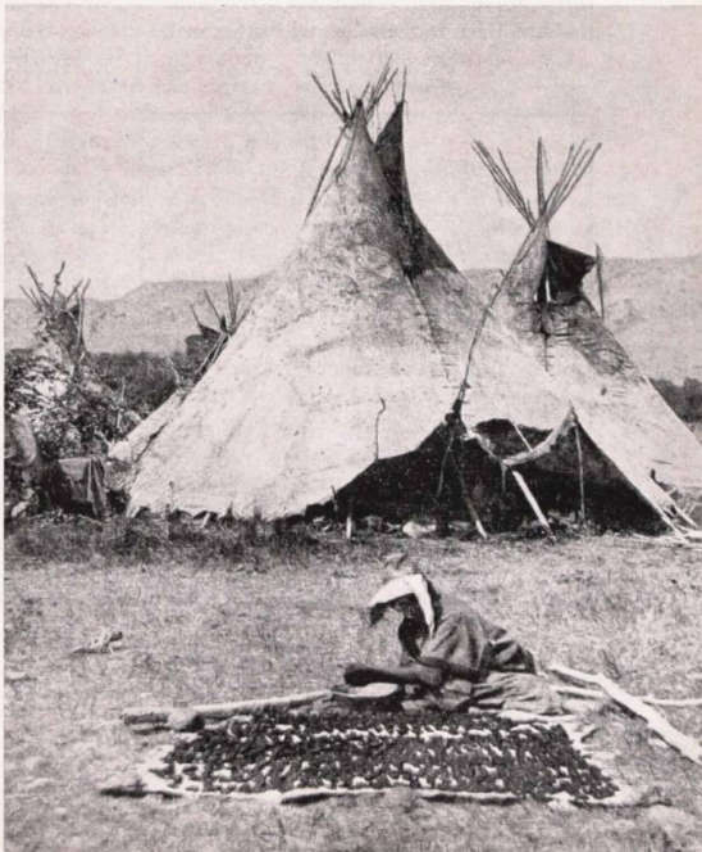
Jedediah Smith and his six men (among whom, apparently, were William L. Sublette, Thomas Eddie, and Arthur Black) decided to accompany Ogden's party back into the Snake country to the summer rendezvous with their fellow Ashley-Henry men in Cache Valley, in what is now northern Utah.

While waiting for Ogden to complete his preparations, the observant Jedediah watched the spectacle of the winter trade with the Flatheads, Pend d'Oreilles, Kutenais, Nez Perces, and Spokanes, wrote in his journal, worked on his maps, and—if one highly esteemed American source is correct—engaged in some missionary work that was to have considerable significance for the Hudson's Bay Company.

Under the date of 19 January 1833 there appeared in the *Christian Advocate and Zion's Herald*, a magazine of the Methodist Episcopal Church published in New York, a strange letter signed by William Walker, an educated Wendat (Huron), who had been in St Louis the previous summer when four Flathead Indians had arrived in that city seeking the "White Man's Book of Heaven" (the Bible). The Flatheads, a tribe characterized by a strong streak of religious mysticism, had been told about this

Making pemmican at a Nez Perces encampment.

BUREAU OF AMERICAN ETHNOLOGY, SMITHSONIAN INSTITUTION



Book by a Protestant white man. This Protestant white man, according to Edwin L. Sabin, author of *Kit Carson Days*, could only have been "Jedediah S. Smith, who spent the winter of 1824-25 among the Flatheads".

Walker's letter electrified the Protestant churches of the United States. "Hear! Hear! Who will respond to the call from beyond the Rocky Mountains?" demanded Dr Wilbur Fisk, president of Wesleyan College in Connecticut. "Money shall be forthcoming! I will be bondsman for the church. All we want is young men. Who will go?"

The young men responded—Jason and Daniel Lee for the Methodists, Marcus and Narcissa Whitman for the Congregationalists, Henry Spaulding for the Presbyterians; missions were established in Oregon and Idaho, and in their wake there came surging into Hudson's Bay Company hunting grounds the thousands of American settlers who would swing the delicate balance of the Joint Occupancy away from Great Britain and the Company and towards the United States.

The Protestant white man who first told the Flatheads about the Bible may well have been Jedediah Smith. He was there, and it was the kind of thing he would do, given the opportunity. However, there is no solid evidence linking him to the incident; his implication can only be conjectured.

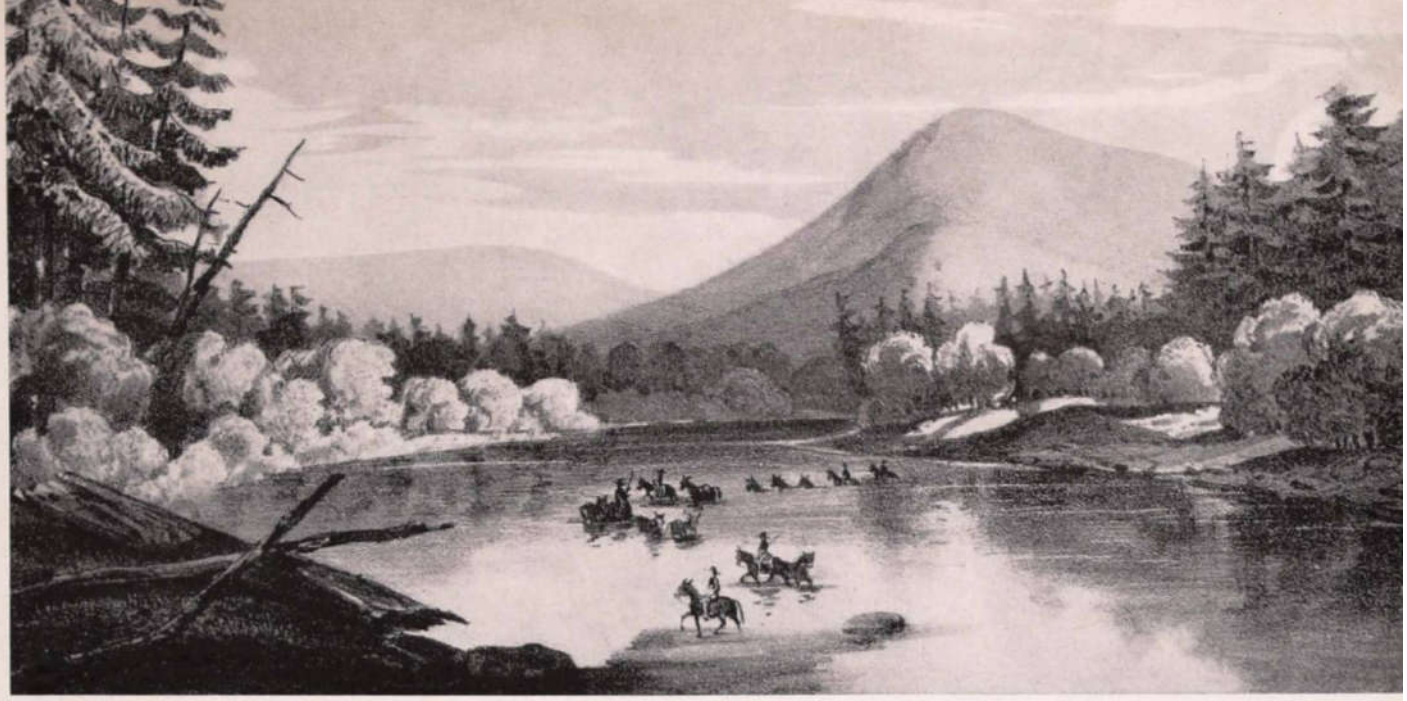
During the three weeks that Smith and his men were at Flathead Post, Ross took notice of their presence only once. In the post journal he recorded that on 12 December forty beaver had been traded at freemen's prices from the American hunters he met in the Snake country. This was a considerable coup for Ross—he bought pelts worth from eight to twelve dollars each in St Louis for sixty cents apiece, and that, probably, in tobacco and gunpowder sold at a 70 per cent advance on prime cost.

The expedition—"the most formidable party that has ever set out for the Snakes", Ross wrote in the post journal—left Flathead Post on 20 December 1824. There were two "gentlemen", Ogden and William Kittson, an interpreter, ten *engagés*, forty-six freemen, thirty women, thirty-five children, with 268 horses, 352 traps, and 61 guns.

Smith and his Americans, off hunting to the south of the post, did not join the expedition until nine days later when it neared Hell Gate, in the neighbourhood of modern Missoula, Montana. Their addition to such a mighty host was hardly noticed; for four months Ogden did not deign to mention them in his journal. Kittson, who also kept a journal, paid more attention; he disliked the Americans and found Smith a "sly cunning Yankey". Governor Simpson, in turn, describes Kittson as a "sharp, dapper, short-tempered, self-sufficient, petulant little fellow of very limited Education, but exceedingly active and ambitious to signalize himself."

The route followed was the one taken by Ross and Smith from the Snake country to Flathead Post—down the Bitterroot Valley, through Gibbon Pass into Big Hole Prairie, through the Beaverhead country, and over Lemhi Pass. Once through Gibbon Pass they were on United States soil, but Smith was in no position to make an issue of this technical trespass because it was also Blackfoot country and "Bug's Boys", as the mountain-

Two of the four Nez Perces (Flathead) Indians who went to St Louis seeking information about the white man's religion, sketched by George Catlin who travelled back to the west with them. He drew them wearing Sioux dress which had been presented to them when passing through the Sioux country.



Crossing a ford in the Bitterroot River, from a drawing in 1853 by J. M. Stanley.

men called them, were a constant threat to Americans.

The elements were not co-operative. For seven weeks the combined parties were held up in the Lemhi Valley because the trail over the divide was blocked by snow. On 19 March Smith and his six men left the main expedition to try and get over the divide via the Little Lost River route. They succeeded and promptly began trapping. Ogden crossed by the same route five days later, and was annoyed to find the Americans trapping just ahead of him. There followed, all the way to the Bear River, a leap-frogging of trapping parties which saw the Americans generally a few miles out in front of Ogden's men. However, Ogden had a measure of revenge—many of the pelts Smith took had to be traded to him, at freemen's debased prices, for the supplies and ammunition that the Americans sorely needed.

Finally, late in April, Smith left Ogden for good. He had learnt that a band of American trappers had wintered on the Bear and were making a spring hunt somewhere to the south. Smith and his men went off in search of their compatriots, and found them. They turned out to be Ashley-Henry men under the leadership of Captain John H. Weber.

Ogden, meanwhile, was trapping down Cache Valley with considerable success, averaging better than eighty skins a day. On 16 May he crossed the divide at the southern end of the valley and descended into the mountain basin that now bears his name. He was farther south than any Hudson's Bay Company party had ever been. He made camp in the canyon of the Weber River (now Mountain Green, Utah). The camp of John H. Weber, which Jedediah Smith and his six men had now joined, was only eight miles away.

It was to prove a fatal proximity for Ogden. His freemen, most of them superannuated Métis and Iroquois, had been seriously disaffected by the knowledge imparted to them by the members of Smith's party that the Americans would pay them something like eight times as much for a beaver pelt as the Hudson's Bay Company would. This large discrepancy in price would later be corrected by the Company, but in the spring of 1825, with the American camp so close, it was to cost Peter Skene Ogden dear. His freemen began to desert, taking their furs to the Americans.

As if the desertion of his freemen were not enough, Ogden now had to deal with the bumptious patriotism of an aggressive young nation bent on achieving what one of its presidents would later call its "manifest destiny".

On the trail south from Flathead Post with Ogden, Smith and his men had noticed that the British flag was sometimes carried at the head of the column, and sometimes hoisted over a camp-site. This was all right in the Oregon country, that territory west of the Rockies from California to Alaska, but once the expedition had come down from Gibbon Pass east of the divide it was in United States territory, or so the Americans thought—the actual dividing line was anybody's guess. Smith, dependent on Ogden for supplies and protection against the Blackfoot, had not protested this possible infringement of United States sovereignty on the trail. However,

Attack by Assiniboine and Cree on Blackfoot outside Fort McKenzie in 1833, by Karl Bodmer. The fort was a Blackfoot gathering place some 100 miles east of the mountain divide. B.A.E. SMITHSONIAN INSTITUTION

he or his men had reported it to their fellow-Americans on reaching Captain Weber's camp, and a group of hotheads led by a free trapper named Johnson Gardner took it upon themselves to chastise the British invaders. Twenty-five Americans, plus fourteen deserters from Ogden's expedition, rode off towards the Hudson's Bay Company camp with an outsize American flag flying at the head of the column. Jedediah Smith himself refrained from participating in this baiting of the British.

On arriving at Ogden's camp, the Americans were chagrined to find no British flag in evidence. However, Gardner demanded that Ogden get off United States soil, to which the latter replied that he would do so as soon as the British government told him to, but not before.

Actually, there was a strong element of *opera bouffe* in the situation. Gardner thought they were on U.S. soil and Ogden believed they were in the Oregon country. Both were wrong—since they were south of the 42nd parallel they were in the territory of the Republic of Mexico.

There was a considerable exchange of insults and invective, more of Ogden's freemen deserted, and finally Gardner and the Americans, with their new allies, the deserting freemen, withdrew. Besides the men, Ogden lost 700 beaver pelts which they carried off with them.

Under the circumstances, and now with only twenty trappers, Ogden cannot be blamed for abandoning Governor Simpson's original plan for a hunt west to conclude at Fort George. He retreated by the way he had come to Flathead Post and eventually to Fort Nez Perces. His year's returns amounted to 3,188 "made beaver", but that was not nearly enough; the 1824-25 Snake Country Expedition had been a disaster. For this, Ogden blamed Jedediah Smith and "that damn'd all cursed day that Mr Ross consented to bring the 7 Americans with him to the Flat heads".

It is difficult to tell whether or not any of Smith's men guided Gardner's party to Ogden's camp. Certainly Smith himself did not go. However relations between the American trappers and the Hudson's Bay Company were off to a poor start.

It was somewhat more than three years later that Jedediah Smith again became involved with the Company. By that time he had become senior partner in the firm of Smith, Jackson and Sublette and, in spite of his comparative youth, was considered the leading man in the American fur trade.

The immediate occasion of this second involvement was tragic. Smith, the first American to reach California overland, had seen ten of his men massacred by the

Mohave Indians. He had then made an epic hunt up the San Joaquin and Sacramento valleys that had brought him into Oregon in early July 1828. There, at the mouth of the Umpqua, treacherous Indians feigning friendship had fallen on the Americans and killed all but four—Smith, Arthur Black, John Turner, and Richard Leland. Smith, Turner, and Leland had been saved because they were out on the river in a canoe, searching for a suitable ford, when the Indians attacked. Black, the only man in the camp to escape, had done so by fleeing into the forest.

Dr John McLoughlin, Chief Factor at Fort Vancouver, has described what happened shortly after nightfall on 8 August:

> . . . I was surprised by the Indians making a great noise at the gate of the fort, saying that they had brought an American. The gate was opened, the man came in, but was so affected he could not speak. After sitting down some minutes to recover himself, he told us he was, he thought, the only survivor of eighteen men, conducted by the late Jedediah Smith. All the rest, he thought, were murdured . . . At break of day the next morning, I sent Indian runners with tobacco to the Willamette chiefs, to tell them to send their people in search of Smith and his men, and if found to bring them to the Fort and I would pay them, and telling them, if any Indians hurt these men we would punish them, and immediately equipped a strong party of forty well-armed men. But as the men were embarking, to our great joy Smith and his two men arrived.*

The Americans who stumbled through the gates of Fort Vancouver were half-starved and almost naked. Smith had lost everything—men, furs, horses, supplies, guns, ammunition and trade goods. Now he was completely dependent on a host with whom his previous experience as a guest had been, on the whole, quite unpleasant.

Dr McLoughlin knew all about the incident of Ross's Iroquois, Smith's return to Flathead Post, and his subsequent accompaniment of Ogden's disastrous 1824-25 Snake Country Expedition. He knew that Ogden blamed Smith, at least in part, for the desertion of his freemen. McLoughlin, however, was too big a man to take advantage of an adversary's misfortune. He immediately made Smith and his men welcome at the fort, fed and clothed them, and made preparations to recover their property. The best of the Company's scouts, Michel Laframboise, was dispatched to the Umpqua to locate Smith's goods and to find out exactly what had happened and why. Meanwhile, preparations for an expedition to the Umpqua to be led by Alexander Roderick McLeod were speeded up and McLeod was charged by Dr McLoughlin with responsibility for the recovery of as much of Smith's property as was possible. Smith offered the services of himself and his men to make war on the Indians guilty of the outrage, and McLoughlin, although apparently favouring punishment, cannily left the matter up to McLeod who would be on the spot.

Unfortunately, Alexander McLeod was not the best man to have on any spot. Francis Ermatinger makes an acid comment on his ability as a leader in a letter to his brother Edward, dated 14 March 1829:†

> We also heard that some time in Sept. Capt. Smith, the American traper had found his way to Vancouver with three men, the rest of his party having been cut off /say 16 men/ upon the head quaters of the Umpagu. And this singular as it may appear without one Indian having received the slightest injury. 'The Doctor [McLoughlin],' says Tod in a letter dated Novbr. 19th, 'sanguine as usual gave him strong hopes of recovering his property 230 horses and mules and 800 Beaver hunted and traded on their route, in consequence Mr. McLeod who has a party of thirty trappers received instructions to take a turn to that quarter which I think he has accepted with indifferent good will.' Mr. [Thomas] McKay is of his party, I believe and upon him I build my hopes, for if Mr. McLeod was to go alone, I am sure, even the sight of so many horses, should he perchance fall in with them, would be alone sufficient for him to yield the field.

The expedition finally left on 6 September. It consisted of McLeod, twenty-two *engagés*, fourteen Indians, and the four Americans. The start was inauspicious. McLeod records it in his journal:‡

> Sept.—Sat. 6th left Fort Vancouver in a Boat with Six Men having a canoe in Company, both much encumbered with Baggage the Boat so indifferent as to require a Man Constantly Employed in baling out Water—shaped our course towards the Wullamette River and fixed our Camp for the night on the 1st Point of its entrance on the East shore—Mr. J Smith accompanies us.

The expedition dragged. "Gave the men their *regale*", McLeod records on Monday, the 8th. They were still drinking by Thursday, and no progress had been made. (One can imagine the abstemious Smith's state of mind at this situation!) When the liquor finally ran out the rains came in "Flying Showers" of drenching, depressing, grey sheets. The rivers overflowed. The horses strayed and got bogged down, and precious time had to be spent in locating and extricating them. Game was scarce. On Wednesday 8 October McLeod wrote: "It is worthy of remark that most of the Men comprising the Party are ailing in some Shape or other some lame—others Sick some with sore Eyes not five Sound in health."

Three days later the sun was shining and an Umpqua chief with a dozen of his tribe arrived at camp, bringing eight of Smith's horses. The chief, whose name was St Arnoose, had just returned from a visit to the Kela-

*S. A. Clarke, *Pioneer Days of Oregon History*, Portland, 1905.
†Document in Huntington Library, San Marino, Calif.
‡M. S. Sullivan, *The Travels of Jedediah Smith*, Santa Ana, Calif., 1934 from documents in H B C archives.

watsets, and he passed on to McLeod their version of the attack on Smith's camp.

An axe had been stolen from camp, and, to ensure its return, the Americans had seized a Kelawatset chief and tied him up. The axe had been returned and the chief released. A few days later the entire band of Indians had come into camp to trade. Another chief had mounted one of the horses for a ride around the camp, only to be summarily ordered down by Arthur Black, who had menaced him with a gun. Finally the Kelawatsets had felt free to avenge these insults because the Americans had said that soon this part of the country would be theirs, a claim that seemed to remove them from the protection of the Hudson's Bay Company. It was also alleged that while Smith was away his clerk, Harrison G. Rogers, had attempted to force a woman into his tent and knocked down her brother. Anyway, a massacre was touched off in which all but Black were killed.

punished, although every effort would be made to repossess Smith's furs, horses, and other property. The decision must have infuriated Smith, with his stern Cromwellian nature, but he seems to have kept a tight reign on his emotions and his tongue.

Slowly Smith's scattered property was scraped together —26 horses and mules from the Umpquas; 560 large and 28 small beaver, 23 large and 20 small land otter, 4 sea otter and odds and ends of rifles, pistols, traps, cooking kettles, lead pencils, cotton shirts, and beads from the now thoroughly-frightened Kelawatsets, with journals and other papers which were part of the records kept by Smith and Rogers. Altogether 40 horses were recovered most of which Smith left at the Hudson's Bay Company base camp on the Umpqua.

On 28 October McLeod records: "Fine weather— Proceeded to the Sea—Stoped at the entrance of the North Branch, where Mr. Smith's party were destroyed,

Snake Indian encampment in the foothills of Wind River Mountains at South Pass. B.A.E. SMITHSONIAN INSTITUTION

Exactly what happened will never be known. Smith denied that any undue force or brutality had been used in tying up the chief who had been made hostage for the return of the axe and Black, while admitting ordering another chief off the horse, denied having threatened him with a gun. The action imputed to Rogers, a devout Presbyterian, is not in keeping with his known character.

McLeod finally decided that the Americans were largely at fault and that the Indians should not be

and a sad Spectacle of Indian barbarity presented itself to our View, the Skeletons of eleven of those Miserabl Sufferers lying bleaching in the sun, after paying the last Service to their remains we continued forward and made the coast."

On 14 December 1828 the expedition, wet and dispirited, reached Fort Vancouver. Dr McLoughlin was surprised and angered by McLeod's return; he had expected him to turn south and trap down to the Sacra-

Hell Gate, the narrow canyon through which Clark Fork River flows, from a drawing by J. M. Stanley.

mento Valley after recovering what he could of Smith's property and dealing with the Indians. He was accused by Dr McLoughlin of having come back only to see his family, was severely rebuked, and immediately re-outfitted for a trapping expedition south to the Bonaventura (Sacramento) River. He left in January 1829 with one of Smith's men, John Turner, as his guide.

While Smith had been in the Umpqua country with McLeod, Governor George Simpson had arrived at Fort Vancouver and Smith was now able to negotiate directly with him for the purchase of his recovered furs and horses.

Simpson, a short, plump Scot, had no peer as an administrator. "He had the imaginative vision of a Clive", the eminent historian F. Merk said of him. He was properly sympathetic to Smith in his plight, and he was scrupulously fair, but his condescension must have been hard for the proud American to take. After telling Smith "Your Beaver . . . is of very bad quality the worst indeed I ever saw, having in the first instance been very badly dressed & since then exposed to every storm of Rain that has fallen . . .", he nevertheless offered to take the damaged goods off Smith's hands at $3 per skin. He also offered two pounds sterling each for the 40 horses recovered. Whether his offer were accepted or not, Simpson added, ". . . Yourself and followers shall be made welcome to a continuance of our hospitality while you choose to remain at our Establishment—and if agreeable you shall be allowed a passage free of expense to Red River Settlement with me in the course of next Spring & Summer from whence you can proceed to St Louis by Prairie du Chien or you may accompany our Snake Country Expedition next Autumn by which means you will in all probability have a safe escort until you fall in with your people at or in the neighbourhood of Salt Lake."

Smith accepted Simpson's offer, which was on the whole a very fair one. In December Simpson drew a bill on the Company agent at Lachine in favour of Smith, Jackson and Sublette to the amount of £550.2.6. Halifax currency (worth slightly more than sterling) in payment for furs and horses; in March 1829 the balance, a further £541.0.6. Halifax currency, was paid.

During the long winter at the fort, Smith was able to savour again the atmosphere of the civilization that he had left six years before. Most of Dr McLoughlin's officers were educated men, the majority of Scottish origin—intelligent, canny, strong-willed. There was a library in which one could read the classics, history, biography, agriculture, travel, poetry, and the London *Times*. There were morning prayers and Sunday worship, with Dr McLoughlin reading the service from the Book

of Common Prayer. The evening meal was a formal feast, the long dining table set with fine china, silver, and linen. A guest described a dinner at Fort Vancouver in 1839 which probably differed little from one ten years earlier:

> At the end of a table twenty feet in length stands Gov. McLaughlin [sic], directing guests and gentlemen from neighboring posts to their places; and chief traders, traders, the physician, clerks, and the farmer slide respectfully to their places at distances from the Governor corresponding to the dignity of their rank in the service. Thanks are given to God, and all are seated. Roast beef and pork, boiled mutton, baked salmon, boiled ham; beets, carrots, turnips, cabbage, and potatoes and wheaten bread are tastefully distributed over the table among a dinner-set of elegant queen's ware, burnished with glittering glasses and decanters of various-colored Italian wines. Course after course goes round . . . and each gentleman in turn vies with him in diffusing around the board a most generous allowance of viands, wines, and warm fellow-feeling. The cloth and wines are removed together, cigars are lighted, and a strolling smoke about the premises, enlivened by a courteous discussion of some mooted point of natural history or politics, closes the ceremony of the dinner hour at Fort Vancouver.*

Over their after-dinner cigars McLoughlin, Simpson, and the other Company officers must often have listened attentively as the scarred young American captain told them about California with its languorous air, its broad central valley full of good beaver streams, its gaily-dressed dons, dashing *vaqueros*, grey-robed friars, and—not least important—its comic-opera soldiery. He did more than talk—he drew maps to guide future Company brigades on hunts south through Oregon and California, he estimated fur resources, he passed on the knowledge he had acquired of the various Indian tribes of California. All this was of inestimable value to the Company.

For his part, Jedediah Smith must have been greatly impressed by Fort Vancouver. There were warehouses, a bakery, a chemist's shop, a retail store, a powder magazine, a school, a chapel, workshops for carpenters, smiths, coopers, wheelwrights, millwrights, tinners, and other artisans. There was a saw-mill and a flour-mill. There was a 3000-acre farm and the beginning of herds of cattle, sheep, goats, and hogs. There were ten acres in apple, pear, and quince trees. It was, in fact, a well established almost self-supporting base, sending good fur returns to England. And, even as Jedediah watched, another and larger fort was being constructed.

Early in March word reached Fort Vancouver that two parties of Americans were trapping in the vicinity of Flathead Post, and Smith, knowing that at least one of them had to be made up of his own partners and employees, became impatient to leave and join them. On March 12th he and Arthur Black said goodbye to Dr McLoughlin and set off by boat up the Columbia without waiting for Governor Simpson. Turner was in California with McLeod, and Leland, a British subject anyway, elected to stay at the fort.

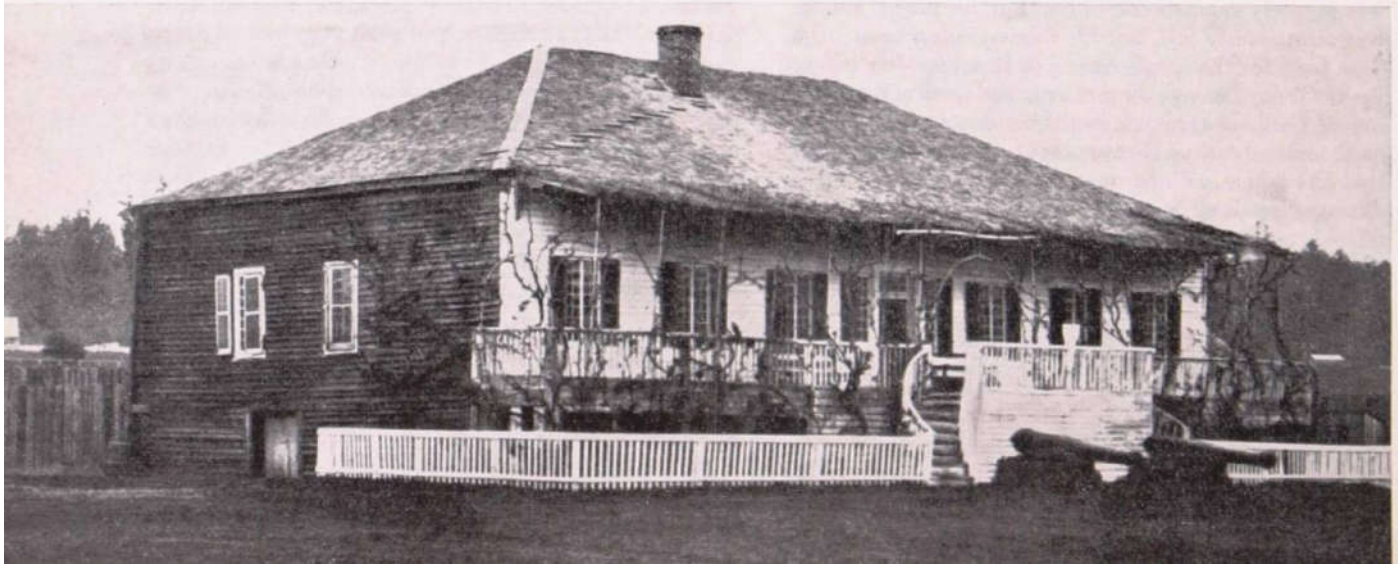
Smith and Black ascended the Columbia to Fort Colvile, then crossed over to Clark's Fork and followed that river to Flathead Post. Thence they headed south, to a rendezvous with the partners in the Teton country.

Thus the greatest of the American mountain-men passes beyond the ken of the Hudson's Bay Company.

That winter spent at Fort Vancouver changed Jedediah Smith's attitude towards the Hudson's Bay Company, if not towards the Joint Occupancy. He still thought that Oregon should be American, but he could no longer think of the Honourable Company as the advance guard of British imperialism. The letter which the firm of Smith, Jackson and Sublette addressed to the American Secretary of War from St. Louis on 29 October 1830 sets forth in strong terms the case for ending the Joint Occupancy, but adds: "In saying this, it is an act of justice to say also

*F. V. Holman, *Dr John McLoughlin*, Cleveland 1907.

The mess house at Fort Vancouver as it was in 1860-1.
ROYAL ENGINEERS CORPS LIBRARY



Jackson Hole country east of the Tetons, with Grand Teton in the background.
WYOMING TRAVEL COMMISSION

that the treatment received by Mr Smith at Fort Vancouver was kind and hospitable, that personally, he owes thanks to Governor Simpson and to the gentlemen of the H.B. Company for the hospitable entertainment which he received from them, and for the efficient and successful aid which they gave him in recovering from the Umpquah Indians a quantity of furs and many horses, of which these Indians had robbed him in 1828."

Smith's gratitude to the Company was expressed in a more practical way. H. H. Bancroft, writing about the relations between the American trappers and the Company, says: "The winter Smith was missing (1828-29), his disappearance was attributed to the Hudson's Bay Company, and his partners, Jackson and Sublette, hired an extra number of men to make war on the Hudson's Bay Company, to avenge the death of their partner, and to make reprisals on them for the property they were supposed to have taken from him; but after learning the facts, presumably from Smith himself, they were satisfied the Hudson's Bay Company acted toward him not only justly but liberally. A better feeling existed after this between the rival American and English companies."

One fruit of that better feeling was Jedediah Smith's decision to withdraw all of his trappers east of the Rocky Mountains, where they would not be competing with the Hudson's Bay Company. As long as Smith remained senior partner in the firm of Smith, Jackson and Sublette, no employee of that firm trapped west of the mountains.

Through its kindness to Smith after his tragedy on the Umpqua the Company had received more than his good will. It had gained maps and intimate knowledge of the great central valley of California that assisted its brigades in hunting that rich territory almost every year from 1829 to 1843.

Jedediah Smith was killed by Comanche Indians in the valley of the Cimarron on the Santa Fe Trail in 1831. Old Smith had reached the advanced age of 32. He was a big man, and in nothing was his stature better exhibited than in his ability to change his mind about The Honourable Company. ◆

ACKNOWLEDGEMENT

Among others, the following publications have been consulted in the preparation of this article: H. H. Bancroft, *History of the Northwest Coast;* S. A. Clarke, *Pioneer Days of Oregon History;* C. L. Camp, ed. *James Clyman, American Frontiersman;* Harrison Dale, *The Ashley-Smith Explorations;* Frederick Merk, *Fur Trade and Empire;* Dale Morgan, *Jedediah Smith;* Alexander Ross, *Fur Hunters of the Far East;* Maurice Sullivan, *Jedediah Smith, Trader and Trail Breaker;* volumes of the Hudson's Bay Record Society and of the Oregon Historical Society Quarterly.

Divination Rites

by Alika Podolinsky Webber

When we think of maps and charts currently used on this continent we may visualize many kinds. Most of us would perhaps think first of a road map. But whatever may come to our minds it would certainly not be a caribou shoulder blade. Yet the caribou shoulder blade has served as a map, and given guidance, to many Canadians. Not, admittedly, when they were trying to find the shortest route to the trans-Canada highway, but when the direction to be taken was a matter of life or death.

The people who place reliance on divination rites with animal bones for survival, and who have done so for centuries, are the Indians of the subarctic regions. They are nomadic hunters who, in small groups of two or three families together, roam a vast territory which is well known to them. At times, in spite of their knowledge of the land they find themselves without fish or game; a blizzard howling outside the tent may mean that a continued search for food is impossible. The camp is faced with starvation.

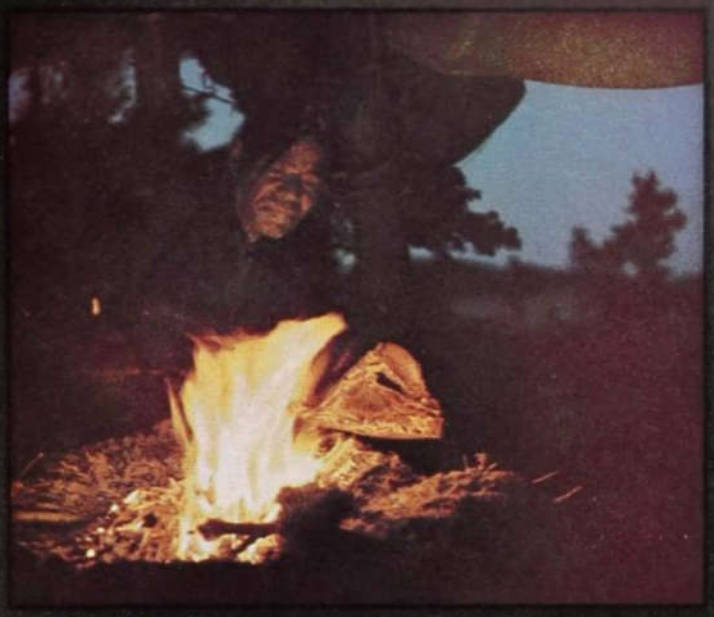
Then, and only then, will the oldest man of the group, or the most powerful, who might or might not be the shaman, open his bag which is often made of hide from caribou shanks and take out the caribou shoulder blade. It must be late evening when this is done, with the open fire the only means of light. No word is spoken. Among the desperate people there is only an expectant silence—and hope.

The first time I witnessed the extrasensory use of a caribou shoulder blade was on a cold night in February. Joe Rich, chief of the Davis Inlet band of Naskapi Indians who inhabit northern Labrador, had promised to visit me when all in camp were asleep and perform divination rites. His consent to do this was so extraordinary that I was waiting in great suspense. He might change his mind if he thought the spirits of the caribou would be offended by a white woman witnessing the rite. No white man had ever been known to have the privilege of seeing a Naskapi perform this secret rite in Labrador.

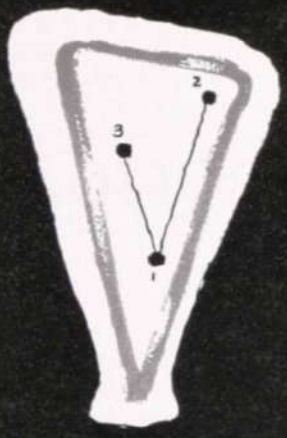
About midnight I heard the shuffle of moccasins and Joe Rich appeared. His face was drawn, and although the temperature had dropped to 35° below zero he was bathed in sweat. Silently we looked at each other. I realized he would do it if I insisted. The caribou shoulder blade was lying in a corner. Suddenly he picked it up. "All right, I shall do it now," he announced.

I then witnessed the old man communicating with the spirits of the caribou. He calls them, they may respond. Fixed in a cleft stick by the joint end, the shoulder blade is held to the fire, and on it brown marks appear. To the group these marks mean survival or certain death. The interpretation of the various dots and lines on the shoulder blade, caused by the heat, varies from individual to individual. A large spot in the middle usually indicates starvation, for it means 'stay in camp, there are no paths to follow.' Thin lines with a blob at the end indicate that there are caribou not too far away, or perhaps other Indians who will share the food they have.

There is hope again. At the earliest possible moment camp will be broken, and the long search for food continued, but now with a guiding map, with confidence, and often with success. ✦

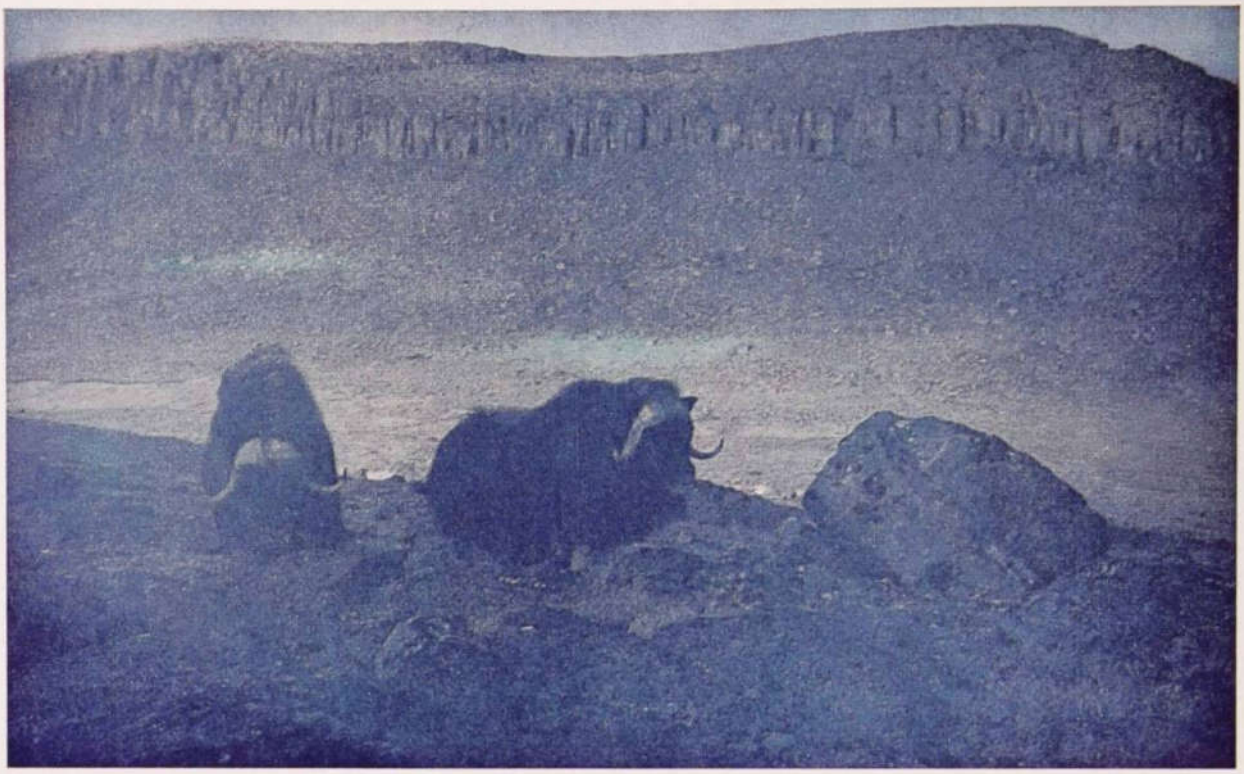


Joe Rich, Chief Shusheship of the Davis Inlet band of Naskapi, holds the shoulder blade of a caribou over the fire. From the scorch marks he will divine the absence or presence of caribou and the direction in which a hunt should be made.



Drawing by Joe Rich of a scorched shoulder blade and his interpretation: 1. In country (location of camp). 2. Caribou, lots of them, but it's a long way off. 3. Indians, maybe they have something (caribou meat). "Five Indians are at 3; we shall be going there and find out if they have meat." The inner line, made with a charred stick, marks the geographical area.

Photographs by Ray Webber



Muskoxen near Holman on Victoria Island. L. B. PILGRIM

MUSKOXEN - DOMESTICATION

BY FRED BRUEMMER

VERY EARLY in his existence as man, man was putting into practice the Biblical injunction to have dominion over the animals. Already in Mesolithic time he made the dog his helper. In the Neolithic period he domesticated cattle, sheep, goats, and pigs. In later ages he added such diverse animals as the yak of Tibet, the llama of the Andes, and the reindeer of the Eurasian Arctic to the number of his servants.

The latest and seemingly most unlikely candidate for domestication is the muskox, that craggy shaggy animal of the remote Arctic regions of Canada and Greenland.

The originator of this project, suggested forty years ago by Stefansson, is John J. Teal, Jr. of Vermont. To the complex task of creating, in a relatively short time, a new domestic animal, he brings an immense knowledge of the Arctic in general and the muskox in particular.

Mr Bruemmer is a roving journalist-photographer who is now working in Montreal.

As a child he kept a menagerie of major proportions at his parental home. At Harvard and Yale he is remembered as a brilliant, if somewhat eccentric student. After distinguished service as a bomber pilot in World War II, Mr Teal travelled extensively in the Arctic, from Alaska to Greenland, and to Lapland and Spitsbergen. Between trips he worked as associate professor at McGill University in Montreal and at the University of Vermont.

Of all arctic animals the muskox fascinated him most and during the years he made this animal increasingly the object of his special studies.

The first white man to describe muskoxen was Henry Kelsey of the Hudson's Bay Company, who saw two of them in 1689 northwest of Churchill. Kelsey was not very favourably impressed by his discovery. "They are ill shapen beast," he reported.

In the remote regions that the muskox inhabits the wolf is its only natural enemy. To defend themselves against wolves, the muskoxen of a herd form a semicircle —the hedgehog formation—their massive heads with long hooked horns facing the enemy. It is a formidable sight and a tough barrier for lupine attackers.

Unfortunately for the muskoxen they tend to assume the same defensive position when faced by humans, and while the strategem may be perfect against wolves, it is suicidal in encounters with men and guns. Once firearms were introduced into the Arctic muskoxen were easily and indiscriminately slaughtered by natives, white trappers, arctic whalers, and by members of expeditions. Now they are amongst the world's rarer large animals.

The most recent surveys (1958 and 1961) indicate that there are about 1,500 muskoxen on the Canadian mainland and some 8,000 or more in the arctic islands. There are about 3,000 on Greenland, 460 on Nunivak Island off Alaska according to a 1962 estimate, 20 in the mountains of Norway near Dovre, and 60 on Spitsbergen. The herds at the last three places are descendants of Greenland calves released in the 1920s and 1930s.

As with most rare animals living in remote regions there are plenty of myths about the muskox. Even scientists could not make up their minds how to classify this ungainly ungulate. So they gave it the rather equivocal name *Ovibos moschatus*—the musky sheep-ox. But the muskox is neither ovine, nor bovine and, according to John Teal, except for bulls in rut it is not musky either, having no musk glands. And he should know. A herd of muskoxen has been living in his back yard for the past ten years.

If the muskox has to be fitted into the scheme of things, then it should be as a distant cousin of the goats, bearing to them roughly the same relationship as bison to cattle.

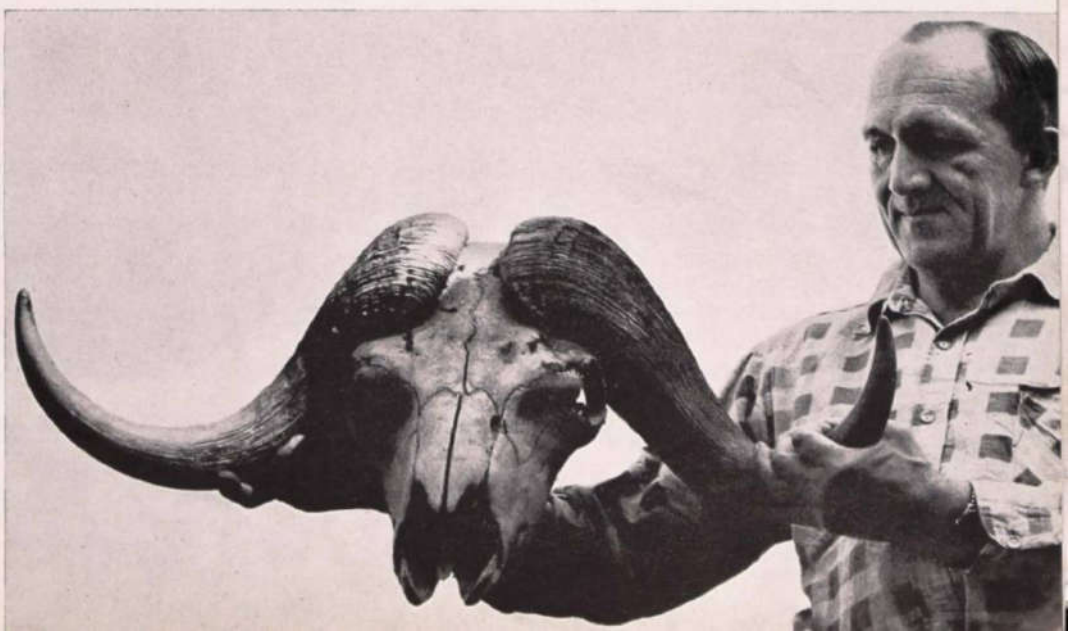
After studying the muskox for eight years in its native habitat, Mr Teal decided to attempt its domestication. As a home for his study herd he bought a 600-acre farm high in the Green Mountains of Vermont. Then he approached the Canadian government for permission to catch some muskox calves. After some hedging the government agreed, on condition that no animals would be killed. This precaution was justified, because the traditional method of capturing muskox calves (especially in Greenland) has been to shoot all adults of a herd to get the calves. Reports show that in the past, five to ten adult muskoxen were killed for every calf caught.

In the fall of 1954 Mr Teal and his helpers flew to Yellowknife and continued from there in two small planes to the Thelon River. They camped near a spot where a herd of muskoxen had been sighted.

The establishment of a game sanctuary near the Thelon River had been urged by J. W. Tyrrell who, in 1900, made an exploratory survey of the Hanbury-Thelon River route to Hudson Bay. He noted that: "one of the most interesting features met with was the occurrence of numerous bands of musk-oxen feeding on the luxuriant grass or sleeping on the river bank." His advice was followed in 1927 with the establishment of the 15,000-square-mile Thelon Game Sanctuary.

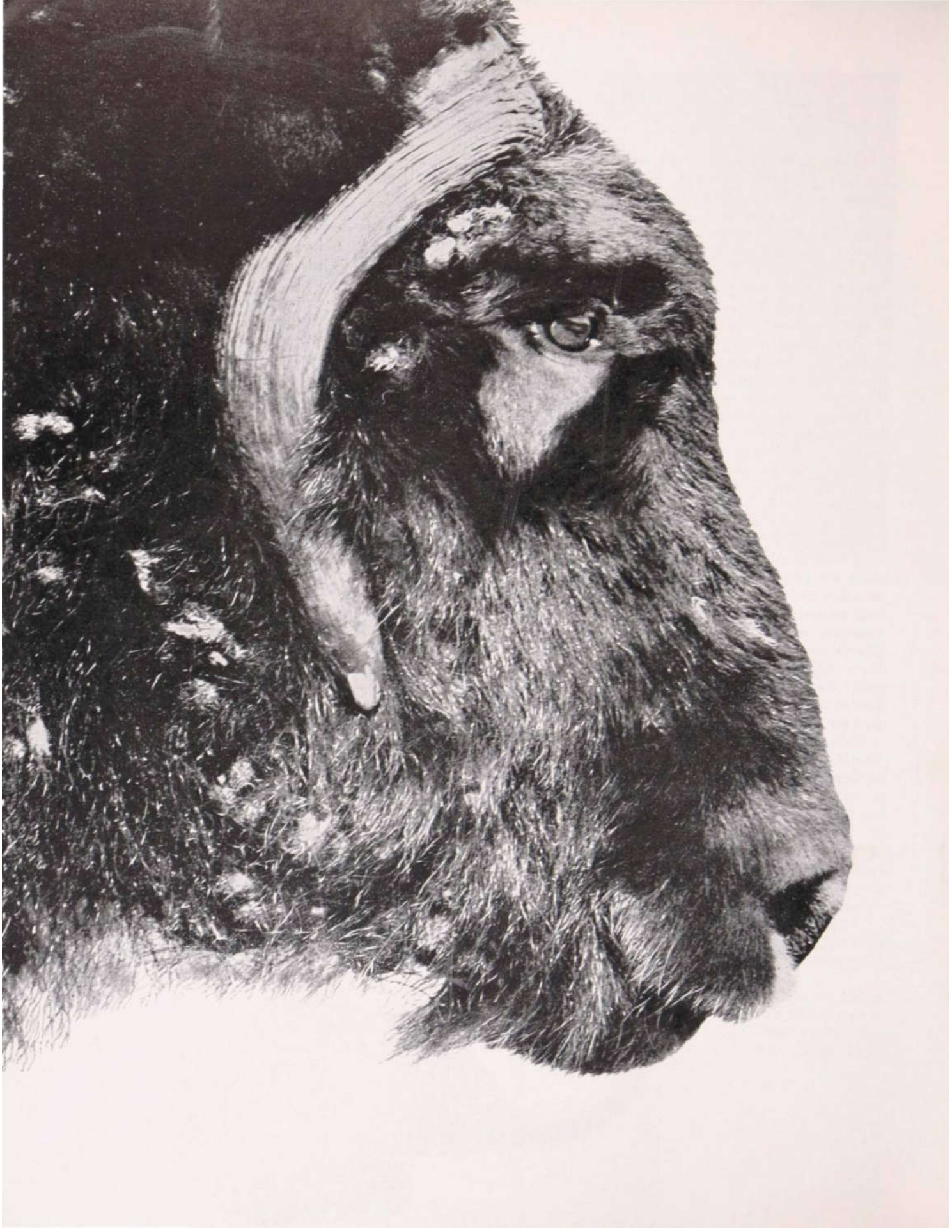
Mr Teal and his party were now faced with the tricky task of catching their animals in this vast treeless terrain. Their first attempt was a fiasco. They picked on a large lone bull and surrounded him with strong nylon nets. The bull watched the performance for a while, more curious than annoyed. Then he charged and rushed through the nets as if they had been cobwebs.

Then Mr Teal, a giant of a man (6 foot 3 inches and 240 pounds), hit upon a novel and daring idea, inspired probably by his past prowess as a football tackle. A canoe



Massive horns on the skull of a muskox bull held by Professor John J. Teal.

THIS AND FOLLOWING PHOTOGRAPHS BY THE AUTHOR



was hidden at a nearby lake. With some trouble they managed to chase the bull into the lake (muskoxen are excellent swimmers) and overtook it easily with the canoe. The moment they were even with the swimming animal, John Teal jumped into the freezing water, caught hold of the bull and tied ropes around his neck and horns. With the help of his friends he manoeuvred the animal to shore where it was trussed up, studied, and then released since there obviously was no room for it aboard their small planes.

The same method was successfully employed on subsequent days to capture three calves and four more in the summer of 1955. They were flown to Vermont and except for a slight hitch in Montreal everything went smoothly. Officials of an aviation company in Montreal somehow got the mistaken idea they were expected to convey three muskrats to Vermont. When Teal arrived with three rather obstreperous muskoxen instead they were stunned, and it took all Teal's considerable charm to persuade the reluctant officials to bring his precious charges to their final destination.

The calves took easily to captivity. They romped round their spacious fenced-in pasture on the farm and within a few days became ridiculously tame. Given milk at first, they were later weaned on timothy hay, grain, and willows.

They grew and prospered. They liked the winter season best and ploughed happily through the deep snow of the Vermont mountains. Their favourite game was 'King of the Castle'. One would get up on a little knoll and the others vied with each other to butt the 'King' off his perch. One of these calves grew into a majestic 1,400-pound bull, the biggest muskox on record.

In the wild state a muskox cow breeds only every other year. The calf is born in May or June and nursed during the following summer and winter. On the farm Mr Teal weaned the calves at three months, before the rutting season in August, with the result that his domesticated cows bore a calf each year. The rate of increase under these conditions is thus the same as for cattle.

From an economic point of view John Teal considers the muskox as the ideal animal for arctic ranches. While reindeer are kept for meat and hide, the muskoxen's main value would be their superb wool, although their meat and hide would also be of importance.

The hide can be made into good and, according to experts, very durable leather.

The meat, Mr Teal claims, is excellent, "rather like beef". Earlier muskox eaters tend to disagree with him on this point. Samuel Hearne remarked that muskox meat was "tolerable eating when properly cooked" and the flesh of calves was good. Other arctic travellers have complained that it reeks of musk.

But the muskox's chief attraction for its domesticators is its wool. Underneath that immense shaggy coat of coarse guard hairs, the animals carry a thick, soft, silky layer of underwool, called qiviut by the Eskimos. It is one of the world's finest natural fibres. So thick and warm is this two-layered fur coat of the muskoxen that it seems to make them impervious to cold. They already live in some of the most frigid regions on earth, yet in winter, instead of seeking the shelter of valleys, they tend to move towards the mountains, where they are exposed to the full fury of the arctic winter winds. But the wind also sweeps away most of the snow, making it easier for the animals to reach the sparse vegetation.

In May and June they begin to shed the underwool. It comes off in sheets and works its way through the stiff outer guard hairs. At this time of the year the muskoxen, not noted for beauty at any time, look particularly ragged, trailing streamers of qiviut, and tufts of this brownish wool is tumbled across the tundra by the wind.

John Teal sent several bags of qiviut from his muskoxen to the Forté Company of Boston, the world's largest importer and processor of unusual fibres. They reported the wool to be similar in type to that of the cashmere goat, only the individual hairs are finer and much longer. One pound of qiviut can be spun into a 40-strand thread 25 miles long.

Another good characteristic of the wool, already noted by the late Vilhjalmur Stefansson who greatly encouraged Mr Teal in his work, is that it does not shrink when boiled. It will also easily take any dye. Qiviut is as light as it is soft and a sweater made from it (Mr Teal has several) is like down, yet suitable for sub-zero weather.

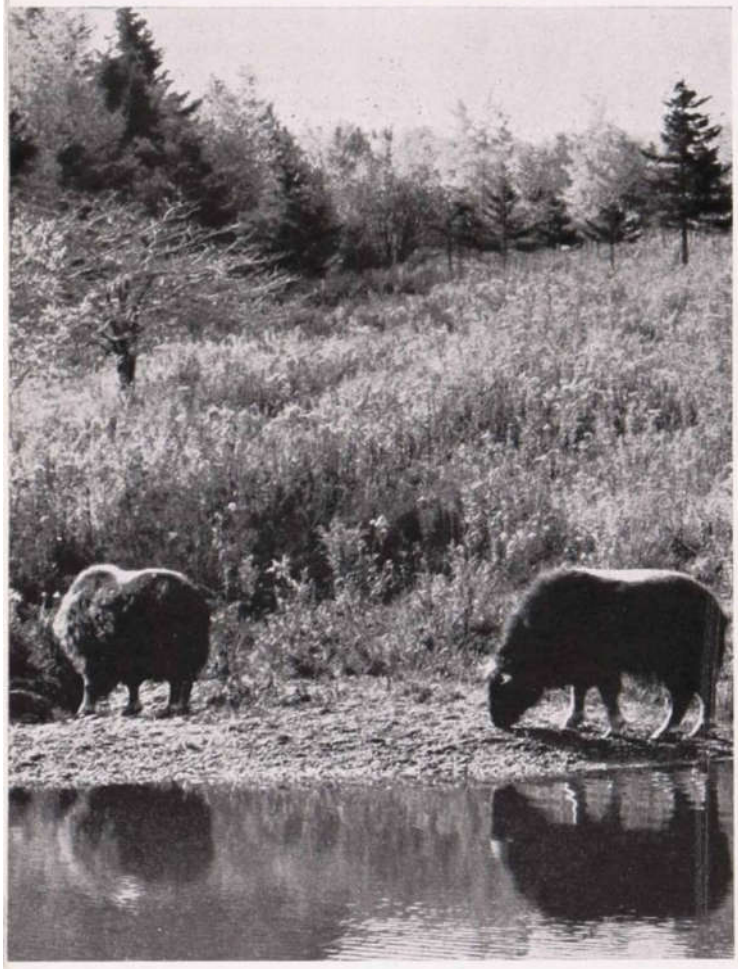
There is one hitch, though. A muskox cannot be shorn like a sheep. But Mr Teal says he found no difficulty in combing out the wool from the guard hairs or just lifting off whole sheets of qiviut as they came loose.

Apart from this difficulty, the muskox seems to be the champion wool producer, both in quality and quantity. While a cashmere goat produces only three ounces of pashm or underwool a year, six pounds of qiviut can be lifted off an adult muskox each summer.

In raising his study herd, John Teal encountered a number of serious problems, partly because nothing like it had ever been attempted before, but mostly because of the southern location of the experimental farm.

A completely unexpected threat to his herd were porcupines, particularly numerous in this area. While cattle and horses avoid them, the muskoxen, forever curious, nuzzled up to the little intruders and got their

Protective bull in front of his herd. The natural surroundings of these animals on Spitsbergen are in great contrast to the Vermont pasture, below, to which others have adapted.



muzzles full of quills. Several animals died from resulting infections or had to be destroyed. More serious was the fact that these farm muskoxen proved quite susceptible to various types of internal parasites, none of which occur in the Arctic. This, too, led to the loss of several animals.

While adult muskoxen seemed as unconcerned about summer heat as about wintry cold, the calves suffered and had to be given special injections and provided with shade areas. The calves are born with their winter coat, they have no sweat glands, their fur is a dark brown-black, and the milk they drink contains 11 percent butterfat. All this combined makes them rather sensitive to heat, but neither Mr Teal nor his associates have any intention of raising muskoxen in southern latitudes on a permanent basis.

The whole domestication project has been mainly financed by the Institute of Northern Agricultural Research, composed of eighteen associates, mostly biologists and veterinarians. Mr Teal is the director of this institute. Now, after nearly ten years of intensive study of the muskoxen at his farm, he is ready for the second phase of his project.

This summer he and some of his associates will fly to Nunivak Island where 460 muskoxen live—descendants of 30 Greenland calves released there in the early 1930s. They will capture 35 calves by the same method perfected ten years ago in Canada. These animals will form the nucleus of the planned breeding herd. This portion of the project is financed jointly by the Institute of Northern Agricultural Research and the University of Alaska at Fairbanks. At one time consideration had been given to establishing the herd at Churchill, Manitoba, but because of the university facilities available at Fairbanks it was

finally decided to keep the herd in a large corral five miles from that town.

From this breeding herd animals will be gradually distributed to 'northern ranchers'. There is no lack of interest. So far the university and Mr Teal have received more than 1,500 requests for muskoxen, mostly from Alaska and Canada, but Greenlanders are also interested and the Russians have followed the Vermont experiment with considerable curiosity.

Who will get the animals? "Those best qualified," says Mr Teal. He envisages the Fairbanks herd as a sort of 'muskox bank'. Qualified northern ranchers will be able to 'borrow' a bull and some cows. After building up their own stock, they will be expected to return the equivalent number of calves to the 'bank', which will be run as a non-profit organization.

Mr Teal thinks it will take about twenty years for the whole scheme to become a commercial proposition on a fairly large scale. But while the herds are being built up, some profit can already be derived from them by collecting the valuable qiviut.

From his own experience Mr Teal thinks muskoxen will be easy to herd. In the wild they spend their whole lives in a relatively restricted area and, provided there is enough food, they show little inclination to wander.

Nor is the idea of an 'animal bank' entirely new. Something similar is done in Alaska, where the Bureau of Indian Affairs will lend reindeer to Eskimos to start them in business. After a number of years the Eskimos have to repay the loan with a similar number of deer. The result of this policy has been that Eskimos in Alaska now own more than 20,000 reindeer.

Professor Teal, for whom the whole project has been an engrossing scientific venture and adventure, is certain that if the work is continued it will eventually be crowned by success.

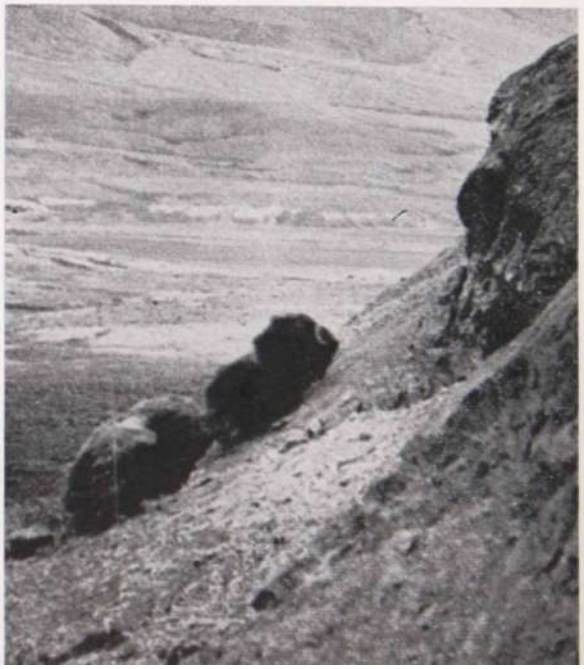
Some day, he says, large herds of muskoxen will graze on the arctic prairie. They will become an important source of food for the people of the north. Their valuable wool will make their raising profitable and, he hopes, open up whole new regions of the north for permanent settlement. ◆

All the muskoxen liked apples which Mr Teal is feeding to one of his animals. On the farm burs become entangled in their hair. The tame muskoxen, unlike cattle, become very affectionate, following Mr Teal about and showing marked intelligence.

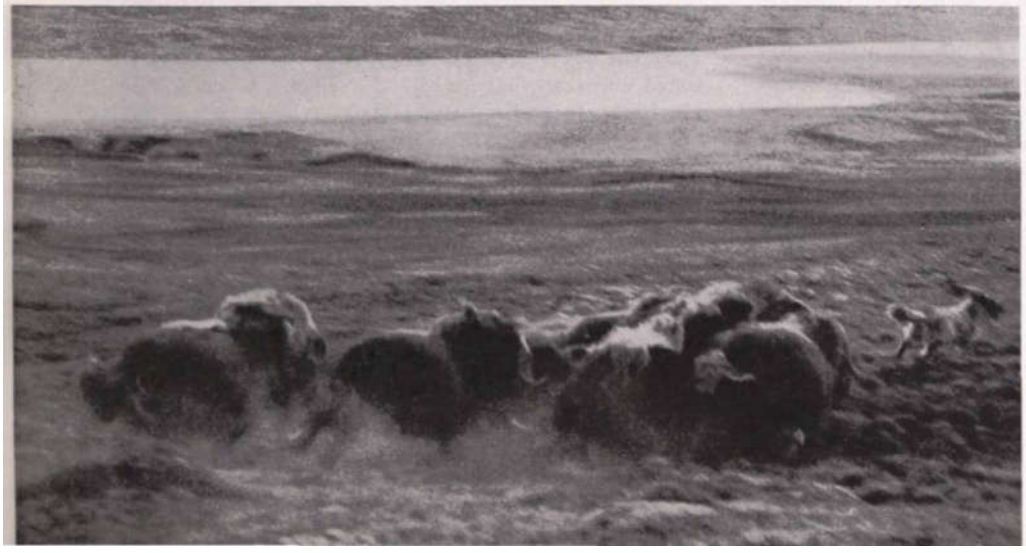
MUSKOXEN - IN THE WILD

BY VITALIS PANTENBURG

of Cologne, a specialist in polar research who has made extensive trips in the Arctic.



Dr Pantenburg's photographs were taken in northeast Greenland. He found the muskoxen had an innate hostility to dogs, which they would charge, but not to men whom they would regard from a defensive group. (Professor Teal found that his tame muskoxen retained their suspicion of dogs. They would follow him around and when startled by a dog go into defence formation with Teal in the centre.) Even two animals would adopt this formation, as shown by the two old bulls lower left. They would also climb steep slopes to get away. A tight wall of muskoxen provides cover for a calf, right. The bull that has moved out from the group against a dog, below, shows well the long shaggy hair and impressive mane of the muskox. They seldom run when alarmed but may take a few wide leaps and gather again in a hedgehog stand.



The Story of Ey-ash-chis

A Cree story related to and recorded (in somewhat abbreviated form here) by Dr Elizabeth E. Cass who during years of Indian Health Services work collected Indian stories and folklore from different tribes in many parts of the country.

MANY YEARS before the white man came to the land of the Crees there was an Indian medicine man named Ey-ash-cho, who had a son named Ey-ash-chis (or little Ey-ash-cho). This Indian got tired of his good wife who worked hard and had given him two children, Ey-ash-chis and a little sister. He married a second wife, younger and prettier, and began to be very unkind to the poor mother of Ey-ash-chis and her children who became mere servants to the new family.

By the time Ey-ash-chis was twelve years old he hated his father and the young wife, but he loved and tried to comfort and look after his unhappy mother.

One day his father's young wife called to him: "Ey-ash-chis, come into the woods with me and shoot some partridges with your bow and arrow." He had shot quite a number and the woman was picking them up and taking out the arrows, but one was only wounded, so she told him to pick it up and kill it. Ey-ash-chis was so annoyed with her that he rushed at her holding the arrow, on which the wounded bird was impaled, and thrust it under her skirts and the dying bird's claws scratched her and drew blood. She was furious with little Ey-ash-chis who laughed at her discomfort. She shrieked and scolded, and then rushed back to her tent and told Ey-ash-cho that his son had attacked her; pulling up her skirts she showed him the marks of the partridge's claws, but she made out they were made by Ey-ash-chis and never mentioned the partridge. Ey-ash-cho hated his son by his first wife and determined to kill him, in such a way that no one should know. He was a cunning witch-doctor and dealt in spells and magic, and he determined to employ some of this magic in order to get rid of his son.

The next day, seeming more friendly, he said: "Come with me my son and we will go to the island over there, where there are plenty of gulls' eggs, and we will bring a lot back for supper."

So little Ey-ash-chis and his father launched their canoe and started to paddle towards the island. After some time the boy said, "Father, it is extraordinary, although we are paddling hard we do not seem to get any nearer to the island".

"It is always like that, when one goes to the island, my son," said the father, but really he was using his magic to prevent them getting to the island early. Finally they arrived in the late afternoon, and by this time little Ey-ash-chis was tired and hungry, but his father made him search for gulls' eggs. They found lots of eggs which filled the canoe and were ready to return when his father suddenly said:

"I have just remembered, I saw a nest over in the bushes with some pretty speckled eggs in it; go and get them and we'll take them home for your little brothers and sisters." Ey-ash-chis was almost out of sight when his father suddenly pushed the canoe off and began to paddle as fast as he could away from the island, for he meant to leave the boy alone to die. Ey-ash-chis suddenly looked round and saw what his father was going to do and he ran back along the shore, as fast as he could, crying, "Father, father, wait for me, wait for me." But when he saw that his father had no intention of returning for him, he picked up a flat stone and sent it skimming over the surface of the water towards the canoe. He hit the canoe and nearly upset it, but his father recovered his balance and went on paddling.

Dusk was now falling and the poor little boy was tired, cold, and hungry, so he flung himself down on the beach and he wept. Suddenly he heard a sweet voice saying "What is the matter, Noosisem (grandchild)?" and sitting beside him was a large white gull. The little boy sobbed out his story, and the gull said: "Your father is a very strong medicine man, and his magic is great, but I will look after you and do what I can for you." And he spread out one of his large wings on the sand, and made the boy lie on it and then he covered him over with the other wing, so that the little boy slept and was kept warm.

Early in the morning the gull woke up, and gave him some raw fish to eat. Then he said, "Now you must climb on my back and I will fly with you. If I am strong enough and I can fly three times round the island, I will know that I can carry you home. He flew twice round the island, but he could not manage any more.

"Alas, little Ey-ash-chis," he said, "I cannot help you. Go down to the farthest point of the coast, and in the water you will see two very big fish, and they may be able to help you." So Ey-ash-chis said "Good-bye" to the kind gull and went down to the point. There he saw two big Mighi-kaki-akwa, which are big fish with big heads, and long feathery spines.

"Good day, O grandfathers", said Ey-ash-chis politely.

"Good day Ey-ash-chis", said the Mighi-kaki-akwa. Ey-ash-chis started his story, but the fish seemed to know all about it. "We will try to help you", they said, "but alas, your father's magic is very strong, and he will do all he can to prevent you coming home. Now you must ride on our backs, but first look at the sky and see if there are any clouds."

So Ey-ash-chis looked and he said, "No, there are no clouds".

"Good", said the fish. "Now before you start find a stone to hold in each hand, and although we will go fast, if you want us to move faster you must tap the long horn-like projection on our heads."

So the fish came near, and he rode on their heads, holding a stone in each hand. At first all went well, but looking at the sky he saw clouds gathering, and he knew that his father was trying to make a storm to prevent them reaching the land. So he tapped each horn with his stones and the fish went faster. But the sky became blacker and blacker and then came thunder, and the fish asked him what the noise was.

"Just the wash you are making," he said, "But please go faster."

Faster and faster they went, until the boy realised that they were in shallow water. He jumped off the fishes' backs, and thanking them, he waded to the shore.

Now the storm was at its height, and the little boy was wet, shivering with cold, and hungry. He ran up the shore as fast as he could to the shelter of the trees, where he found a little wigwam with smoke coming out of the top. Cautiously he lifted the flap and looked inside, and there was a pretty red Macheiskwao (lady fox).

"Come in, Ey-ash-chis," she said, making room for him by the fire, and the miserable little boy crept in.

Now this Macheiskwao was a friend of Ey-ash-chis' mother, and helped her perform magic, but alas her magic was not as strong as her husband's. Macheiskwao took a tiny kettle and in it put a very small piece of meat and said, "This is your supper, Ey-ash-chis."

Ey-ash-chis was dismayed, because he was very, very hungry. But when it was cooked he found to his amazement that it was more than enough because it possessed magic qualities.

"Now," said Macheiskwao, "you must rest for you have much danger to face, as your father will do all he can to prevent you reaching home alive."

So Ey-ash-chis slept, and later Macheiskwao told him what to do on his journey.

"For the first part of it I will come and help you, but the last part you must go alone. Firstly you will meet the Nosh-ne-ukatu (people with the strong legs). These people have very large powerful legs. They press hospitality on all strangers, and they talk, and tell stories. Their voices lull the traveller and when he is asleep they crush his body to bits between their strong legs.

"Now take this club. You must listen to their stories, but you must not fall asleep, only pretend to do so, and when they try to get hold of you I will rush in, you will pretend to be trying to hit me with the club, but really you will hit them over the head."

So Ey-ash-chis and Macheiskwao started on their journey, and when they came near the wigwam of the Nosh-ne-ukatu, she slipped into the bushes, and he went alone into the wigwam. It happened just as Macheiskwao had said; they fed him well, then told him stories, and their voices made him so drowsy it was very difficult for him not to fall asleep. But Macheiskwao rushed into the wigwam running round and round, and he rushed after her with his club hitting the Nosh-ne-ukatu on the head until not one of them was left alive.

Then they continued on their journey, and Macheiskwao taught Ey-ash-chis some of her magic to help him when he finally should arrive home. The next people she told him he would meet would be two sisters, who were very strong conjurers. They were ugly, and old, and on their elbows they had long spikes. They stood each side of their wigwam flap, and as strangers entered, they would

stick these spikes into them and kill them. But Macheiskwao gave him certain advice, and sent him on. Ey-ash-chis soon saw the wigwam of these harpies, and he crept around the back, then climbed up the side, and peeped in through the top and there were these two old women sitting around a kettle in which a piece of meat was stewing, but at that moment his foot slipped, and he made a slight noise.

"What is that, sister?" said one old harpy looking around.

"Perhaps, it is Ey-ash-chis arriving," suggested the other, and they both got up, lifed the flap,and looked out.

Meanwhile, Ey-ash-chis quickly got a stick, let it down into the kettle, speared the meat, slid noiselessly down the side of the wigwam, and hungrily ate it up. The sisters came back and found the meat was gone, and each accused the other of stealing it. Then Ey-ash-chis got a long pole, started to walk towards the wigwam and the sisters heard him coming and went and stood each side of the flap. But he pushed the flap with the pole, and the two sisters moved in and started sticking each other with their spiked elbows, yelling "Animikao!" ("I am sticking him!"), and they stabbed each other to death.

Ey-ash-chis laughed and ran along the road to where Macheiskwao was waiting for him and they continued along the trail. Soon she told him she must leave him, and gave him a stuffed weasel.

"You must follow this road, and you will come to a great mound of bones all over the road and both sides of it. You must not step on them and make a noise for if you do the bad people who live in the woods will come and kill you. The only way you can pass is to make a tunnel in the ground and crawl under them, but be careful of the dogs which are on guard. The bad people cannot smell you, but the dogs can. If they bark when you are tunnelling you must make a hole through the earth above you and push out the head of the weasel, and the bad people will think that the dogs have smelled a weasel."

Ey-ash-chis sadly took farewell of Macheiskwao, thanking her for her help and kindness, and went on down the road. He came to the mound of bones and was cautiously tunnelling his way under them, when the dogs started to bark. The bad people woke up and asked the dogs what they were barking at.

"Ey-ash-chis a mickinan" ("We are barking at Ey-ash-chis") said the dogs. But Ey-ash-chis pushed the stuffed weasel up through the earth, and the bad people saw it and were furious.

"You are barking at Chee-chee cokenoyesh (the little bone picker)"they cried, and they were so cross they beat the dogs and in the confusion Ey-ash-chis escaped.

Meanwhile, when the old man came back without his son, Ey-ash-chis' mother wept, and wept. She cried, "Oh! Oh! What have you done to my son? Where is he?", but no one would tell her, and her heart broke with sorrow. One day she was weeping in the forest, when she heard a voice say, "Mother I am home." But all she saw was a tiny bird sitting on a tree. Every day the bird said the same words to her, and one day her son stood before her; weeping, she flung her arms round him. Then she rushed to her wigwam and brought out beaver skins for Ey-ash-chis to walk on, crying out "My son has come home!" When the old man heard this, he was furious, but he pretended to be pleased, and he came out with deer skins which he spread out for Ey-ash-chis to walk on but Ey-ash-chis kicked aside the deer skins, and walked on the beaver skin mats straight into his mother's wigwam, and closed the flap. There he told his mother and sister of his father's wickedness, and of all his sufferings.

"And now", he said, "I am going to kill him, and all his family."

That night, in his wigwam, he sang a magic spell, saying: "In the morning, O waters boil, and earth burn," and the old man heard him singing, and was afraid, and he sang: "O waters do not boil, and O earth do not burn." But when the morning came Ey-ash-chis shot one arrow into the waters of the river, and they began to boil and heave, and he shot another arrow into the air and it fell in the forest, and a big fire started.

Ey-ash-chis took his mother and sister by the hand and led them to the top of the hill where he drew a circle around them on the ground and said magic words, and then stood inside the circle with his mother and sister. The fire began to burn the wigwams, and his father came rushing up with his family, trying to get into the circle too, but Ey-ash-chis pushed them out. Then his father cried out, "At least tell me where to put my children to save them." And Ey-ash-chis laughed and said, "Put them in the great wooden chests where the bear fat is stored."

So all the people perished except the three inside the circle. Ey-ash-chis' mother was angry with him, for she thought he had done wrong to kill his father, so he said, "Never mind, mother, I will turn you into a little bird, and you will be happy living in the forest."

And he painted her breast red and her body black and turned her into a little robin, and his sister into a blackbird. Himself he changed into a beautiful bird with a long shimmering tail of many colours.

"For mother", he said, "I am tired of this land, and I am going to live in a hot country."

And he flew away and was never seen again. ✦

PEMMICAN

AND HOW TO MAKE IT

WHEN THE WHITE MEN set out across North America, a reliable supply of portable provisions was one of the major problems. It was doubtful that they could live off the country. They knew something about preserving food, a necessity for sailing ships, but it was on the lines of salting and pickling. The resultant salt pork and hardtack were unappetising fare but they kept life in a man.

The Plains Indians had a better solution to the problem, and one on which the fur traders and explorers came to depend. The answer was pemmican. The Cree word *pimikan* meant, roughly, manufactured grease, but there was a lot more than that to it.

Basically it was buffalo meat, cut (with the grain) in thin slices or strips and dried in the sun or over a slow fire. A smoking fire added flavour and was useful for keeping the flies off though if meat racks were high they tended to be clear of flies. It was then spread on a hide and pounded by stones or mallets to become 'beat meat' which was tossed into a rectangular rawhide container (hair on the outside) about the size of a flour sack. To the dehydrated, crumbled meat was added one-third or more of melted fat and the bag was sewn up. The fat might be mixed with the meat before or after it was bagged. While the pemmican was cooling the bag was turned from time to time to prevent the fat all settling on one side. Compressed in a skin bag that was greased along the seams to eliminate air and moisture it would keep for years.

In the best pemmican, which was limited in quantity, the meat was very finely pulverized and only marrow-fat, from boiled broken bones, was used. For variety sometimes dried fruits such as chokecherries, saskatoon or service berries might be added. The pemmican bags were flattened for easier handling. At times rendered fat was also stored in rawhide bags, left round to distinguish them from the pemmican bags, while the marrow-fat, which though better tasting was comparatively scarce and did not keep as well as ordinary tallow, would be preserved in bladders. The bags of pemmican weighed 80 to 90 pounds and it was estimated that each bag accounted for two buffalo (bison). So high was the food value that three-quarters of a pound was a reasonable day's ration but hard working voyageurs were more likely to consume between one and two pounds each in a day.

Moose and elk meat was sometimes treated similarly but the results were not so satisfactory. In some regions fish pemmican was made by pounding dried fish, mixed often with sturgeon oil, but it was more usual (as it is now among the Crees) for the pounded fish and fish oil to be kept separately, the oil in animal bladders.

David Thompson, in 1810, described pemmican in detail: ". . . dried Provisions made of the meat and fat of the Bison under the name of Pemican, a wholesome, well tasted nutritious food, upon which all persons engaged in the Furr Trade mostly depend for their subsistence during the open season; it is made of the lean and fleshy parts of the Bison dried, smoked and pounded fine; in this state it is called Beat Meat: the fat of the Bison is of two qualities, called hard and soft; . . . the latter . . . when carefully melted resembles Butter in softness and sweetness. Pimmecan is made up in bags of ninety pounds weight, made of the parchment hide of the Bison with the hair on; the proportion of the Pemmecan when best made for keeping is twenty pounds of soft and the same of hard fat, slowly melted together, and at a low warmth poured on fifty pounds of Beat Meat, well mixed together, and closely packed in a bag of about thirty inches in length, by near twenty inches in breadth, and about four in thickness which makes them flat, the best shape for stowage and carriage. . . . I have dwelt on the above, as it [is] the staple food of all persons, and affords the most nourishment in the least space and weight, even the

gluttonous french canadian [the voyageurs] that devours eight pounds of fresh meat every day is contented with one and a half pound p[r] day: it would be admirable provision for the Army and Navy."

James Isham, writing fifty years earlier, comments on the quality of the marrow-fat, it being ". . . fine and as sweet as any Butter or fatt that is made, moose and Bufflow fatt they Reserve after the same manner in great Quantity's". He mentions that the meat, cut in slices, is dried on poles over a fire, which takes about four days, and then pounded or beaten between two stones till some of it is as small as dust. "Pimmegan" he claimed, was "Reckon'd by some Very good food by the English as well as Natives."

There were three ways of eating pemmican. There was the soup or stew called rubbaboo in which a lump of pemmican was chopped off and put in a pot of boiling water. If it was available, flour was added and possibly wild onions, sometimes a little sugar, occasionally a vegetable and a scrap of salt pork. Frying the pemmican in its own fat resulted in what was called rousseau (or rechaud or richot) and to it also might be added some flour or a suitable wild plant or berries. The third method was to hack off a lump and eat it raw, a slow process, since it dried extremely hard, but a satisfying concentrated food for the traveller with no time to stop.

Though they realised its worth, not everyone enjoyed pemmican, no matter how prepared. A party from Boston travelling to the Saskatchewan to see the solar eclipse in 1860 commented that "rousseau is by comparison with the others palatable, though it is even then impossible to so disguise it as to avoid the suggestion of tallow candles; and this and the leathery, or India-rubbery, structure of the meat are its chief disqualifications. But even rousseau may loose its charms when taken as a steady diet three times a day for weeks."

While it is known that pemmican lasts for a long period it is doubtful if there is any lying about now. At times a strange lump of organic matter is dug up and is claimed to be 'fossil pemmican'. This is a trap for the unwary for in all likelihood this 'relic' will turn out to be a fungus known as tuckahoe (*Polyporus tuberaster*) which is found in the prairie black soils in conjunction with aspen.

There is now no more genuine pemmican made from the bison or buffalo, but the photographs here show how to make a modern version by the best Cree methods. A. B. McIvor who took the pictures of his wife making the pemmican offers the following advice:

The first step is to procure a moose, or other large animal. The meat of the animal is sliced, as thinly as possible, in sheets and strips.

1. The first step in making pemmican: cutting the meat into thin slices and strips.

A rack is built to hang the sheets and strips of meat on and this rack is enclosed in a canvas shelter, or a lumber smoke-house is built. (The McIvors have a smoke-house for preparing their meat and fish.)

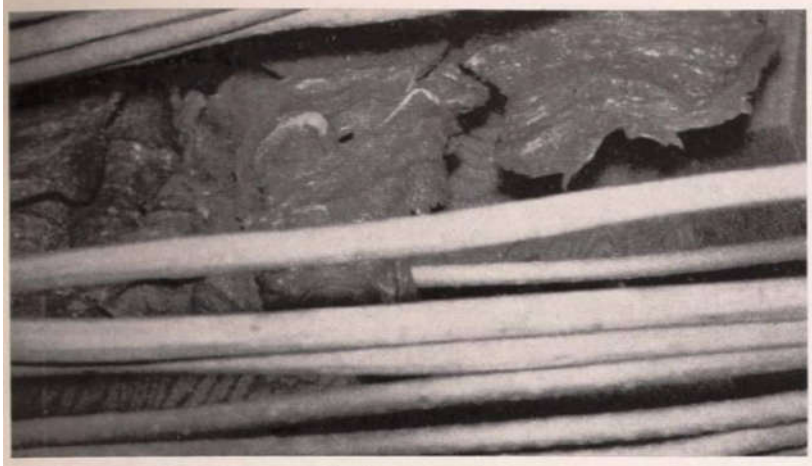
A slow fire of dry poplar, willow, or other hardwood is made under the meat and kept going till the meat is completely dried and smoked. This takes from forty-eight hours up.

The dried meat is then partially enclosed in a moose hide or a strong canvas bag and pounded with a heavy instrument such as an axe or a wooden mallet made for the purpose till the meat is in very small pieces or, for the best pemmican, completely powdered. In these days, after pounding the meat might be put through a grinder.

The best parts of the animal fat are taken and rendered. The bones of the animal are broken up and boiled for their marrow-fat content.

The rendered fat is heated to boiling point and put in a container. Then as much of the pounded meat as can be absorbed is added to the hot fat.

This is now pemmican and it is put in animal hide bags, or, more probably, in moulds such as small dishes to set. Such is the food on which the western travellers of former years depended. ◆



2. Sliced meat hanging on racks in the smoke-house.

3. Meat completely dried and smoked.

4. Pounding the dried meat with a wooden mallet.

5. Before pounding, and a bowl of 'beat meat'.

6. Fat and meat combined, placed in dishes to set.

7. Fine pemmican, pulverized moose meat and marrow-fat. The copper kettle is 5¼ inches high.

NORTHERN BOOKS

THE PALLISER EXPEDITION:

An Account of John Palliser's British North American Expedition, 1857-60.

By Irene M. Spry. Macmillan of Canada, Toronto, 1963. vi, 310 pages, maps, $7.50

Reviewed by W. L. Morton

The history of the Canadian West as part of the history of Canada, of North America, and of the world, has not so far been told. The region was as isolated from the world as Kamchatka until a hundred years ago. That isolation was increased by the nature of the fur trade, with its necessary solitude and monopoly, and a sense of isolation continues to affect the history of the west.

Now the isolation is beginning to end. Two books of 1963 enable one to see western history as analogous to that of the American West, and that of Africa. Both regions offered routes to the Rockies and the Pacific. Both were wastes challenging the vigorous Victorian world to explore and open them. First Miss Lent's lively, if sometimes inaccurate, account of James Sinclair's crossings of the plains and the Rockies in *West of the Mountains* revealed the comparative histories of the American and Canadian wests. Now Mrs Spry deals with the same theme, and adds that of Victorian science, embodied in the Royal Geographical Society, and of Victorian adventure, usually enacted in Africa.

Mrs Spry's study of the Palliser expedition is at bottom a work of severe and exacting scholarship. Her research has been extensive; her fidelity to her sources is great; her judgement always moderate: at the same time Mrs Spry's presentation of Palliser, his companions on the expedition, Hector and Blakiston, and the work and mishaps of their summers on the prairies and the Rockies, is simple, direct and engaging. The story is in quite an unusual way suffused with the writer's own warmth of interest and vividness of mind.

The expeditions and the country itself are, moreover, described with the eye of a trained geographer and of one who knows the character of the three great regions it explored. These were, of course, the Shield between Lake Superior and Lake Winnipeg, the prairies of the South Saskatchewan, and the passes of the Rocky Mountains. Those who have read Palliser's *Journal* and other books of exploration and travel on those regions, will follow Mrs Spry's narrative step by step.

The book did disappoint what were perhaps exaggerated expectations. It is not a biography, of course, but even so does not do all it might to bring out Palliser and his companions as persons. I think this failure was caused by over-scrupulosity in Mrs. Spry's sense of scholarship. Nor does it do what it might have to set the background in Canada and the United States for the expedition. The expedition was in fact part of the train of events that was to decide whether there was to be a continental Canada. Mrs Spry is aware of this, but again I think not bold enough in bringing it forward. Nor does care triumph in every line of the work. The first name of Blodget, the American geographer whose work was central to the scientific interest in the West, was Louis. It should have been given in the index at least. And an academic reviewer must deplore the absence of footnotes and bibliography. Are the costs of the affluent society to dry up the springs of knowledge?

For many years head of the Department of History, Professor Morton is now Provost of the new University College at the University of Manitoba.

EARLY VOYAGES AND NORTHERN APPROACHES

By Tryggvi J. Oleson. McClelland & Stewart, Toronto, 1963. 211 pages, illus. $8.50

Reviewed by G. W. Rowley

Out of the northern mists the Vikings executed their fierce raids on a tranquil and unprepared Europe. True to this tradition Tryggvi Oleson has in *Early Voyages and Northern Approaches* assaulted the established concepts of the early history of Canada. In his first chapter Professor Oleson begins his shock-treatment: "It is the central thesis of this book that the Dorset people antedate the Tunnit; that they were the Skraelings of the sagas, the pigmy, primitive people whose race and origins are unknown; and that the present-day Eskimos are the result of an intermixture between the Dorset people and the Tunnit, that is, the Icelanders who left the farming settlements and adopted what we would call an Eskimo way of life. This amalgam emerged as the Thule Culture, the precursor of the modern Eskimo Culture."

In all North America there cannot be an archaeological eyebrow that could remain unmoved at this statement.

The Vikings were noted for their aggressive attacks and not for their skill in defence—indeed they had no positions to defend. Professor Oleson has adopted the same tactics. He condemns the findings of the archaeologists, based on countless careful excavations, as untenable and puts forward completely opposed theories. It is a difficult assault to meet because he is not specific about what he considers to be wrong, and he provides no detailed evidence to support his own views.

Early Voyages and Northern Approaches makes interesting reading largely because of its wholesale approach. It may make the archaeologists review their defences, but it will not make them give up any ground. All archaeologists will regret that Professor Oleson, who died suddenly just before publication of his book, can carry out no more raids. They too enjoy a good fight.

This book is the first in chronological order of the Canadian Centenary Series, a history of Canada in seventeen volumes. It is intriguing to find a pirate ship flying such respectable colours.

Secretary of the Advisory Committee on Northern Development, Graham Rowley has personal experience of archaeological and exploratory work in the Arctic.

THE WORLD OF THE BEAVER

By Leonard Lee Rue III, Lippincott, New York; McClelland & Stewart, Toronto, 1964. 155 pages, illus. $6.00

Reviewed by Donald Denmark

Mr Rue travelled extensively in his own state and in the wilds of Quebec to observe beavers in their natural state; further studies of their

habits were made in captivity. The book does not lack detail and has a profusion of excellent photographs. Beaver were photographed while felling trees, building dams, swimming at ease and in haste. Only those who have tried it will appreciate the difficulties and discomforts of photographing wild animals whose habits are, for the most part, nocturnal.

One cannot but admire the author's courage in attempting to enter a beaver lodge as the beavers do. Had he been successful, the occupants might have taken flight by another plunge hole—or they might have attacked. One can never be sure how a wild animal will behave in an unusual situation.

The reader may be puzzled by a reference to "line trap" in the caption to a photograph on page 74. Possibly an error occurred and "live" trap was intended. In the first chapter the author states that "the beaver of today is a rarity in the mammal world because he never stops growing nor reaches his maximum growth potential". This is difficult to understand: possibly the author refers to the growth of the front teeth to repair the wear incurred in felling trees. It is commonly assumed that the beaver lives for some twelve years, reaching its maximum size and weight, in the wild state, in four to six years.

This reviewer does not agree with the author that "unlike muskrats, the skins of beaver are seldom scarred by fighting". In the operation of Canadian beaver preserves, it was found that on several occasions the season's collection of beaver pelts was appreciably lowered in value owing to the large percentage of scarred pelts. Lack of dispersal of the animals from choicest habitat as they increased in number had caused stress which resulted in fighting, not an uncommon occurrence among wild animals and not necessarily connected with the breeding season. There is the further comment that "the coats of the water animals such as the muskrat and beaver do not develop before February or March". This is true of the muskrat but no fur trader will agree that the beaver pelt is not prime before February or March. In Canada there is heavy demand for beaver pelted in December.

In restocking depleted areas on this continent there has been considerable crossing of beaver subspecies by the transplanting of beaver. However it is probable that, after a few generations, the offspring of the imported beaver will display the characteristics of the native beaver of the region.

Mr Rue has described the function of the beaver pond in creating agricultural land but he has shown that the beaver's place is in the wilderness, not in civilization where it can be a thorough nuisance. He has described the beneficial effects of beaver conservation on some other wild animals and its impact on the economy of the white and Indian trapper. The book is a most interesting description of the beaver, its surroundings and works, its fight for existence through the changing environment of the seasons, and the procreation of the species. The format of the book is attractive, the photographs and typography are excellent.

Mr Denmark, now in private practice as a Manitoba Land Surveyor, for some twenty years had charge of the Hudson's Bay Company's extensive beaver and muskrat preserves.

MINNESOTA, A HISTORY OF THE STATE

By Theodore C. Blegen. University of Minnesota Press. Minneapolis, 1963. 688 pages, maps, illustrations, $9.25

Reviewed by G. F. G. Stanley

This book is written by the dean emeritus of the University of Minnesota Graduate School. It is, in many ways, a pulling together of the publications and writings of four decades and the achievement of a desire of many years; for Dr Blegen has been, perhaps more than any other man, the dedicated servant of Minnesota history, both at the university and in the State Historical Society.

The book was also a necessary work. Despite the recent reprinting of Folwell's four-volume *History of Minnesota*, there has long been a need for a single volume state history, especially one like Dr Blegen's, that is concise and comprehensive, authoritative and readable. To achieve this combination of authorial virtues is no easy task. It is to the author's credit that he has done so.

Nor is it an easy task to write the history of a small political unit forming part of a greater whole. There must be no isolating of the regional from the national scene; for the latter must always impinge upon the former. Neither can there be an overwhelming of the former by the latter. Moreover, the story of a state (or province) must include not only the obvious, such as explorations, wars and politics, but also the less obvious but important agriculture, institutions, education, art, literature, research and all the activities economic and social that have influenced the lives of the people of the state. This, too, the author has achieved with skill and not a little artistry.

The Canadian student will probably put this book aside after a casual glance at the table of contents and at the 52 half-tones; and probably for the wrong reason. A history of an American state may appear to have little to interest him. Yet he should recall that New France included all that territory west of the Mississippi, and that until the merging of the North West and Hudson's Bay Companies in 1821 (or rather until the raising of the American flag two years earlier at the confluence of the Mississippi and Minnesota rivers) the western plains were the trading preserves of British subjects.

The 84 pages (out of 688) devoted to this period do not, however, provide much in fact or interpretation not already familiar to Canadians. And in the pages that follow little will be found that refers, even indirectly, to the Canadian story. Sibley, Ramsey, Donnelly all play their part in these pages without, apparently, turning their eyes toward Fort Garry and the Red River Settlement. Riel's, Stutsman's names do not appear, and Fort Garry receives only passing mention two or three times. This is unfortunate. It gives some grounds for Canadians, whose interest is not primarily in the history of the United States, putting aside what is a good book.

Author of numerous books and articles, Professor Stanley is Dean of Arts and Head of the Department of History at the Royal Military College, Kingston.

IRISH OF THE ARCTIC

By P. E. Breton, o.m.i. Editions de l'Ermitage, 9916-110th Street, Edmonton, Alta. 1963. 153 pages, illus. $1.50

This is the story of Brother Kearney and his life at the Oblate mission at Fort Good Hope on the Mackenzie among the Hare Indians. Father Breton's original book was published under the title *Au Pays des Peaux-de-Lièvres* and was reviewed in *The Beaver* in the Autumn 1962 issue.

This is the translation into English, beautifully rendered by Father J. S. Mullany. Too modest to aspire to the priesthood that he might have attained, Brother Kearney's foreign mission began at Fort Good Hope in 1861 and there he selflessly worked at every task that came to hand for 57 years. His biography, described in the earlier review as "a sheer delight" has lost nothing in translation, though the illustrations have suffered in the new edition.

BEARS IN THE FAMILY

By Peter Krott. Oliver & Boyd, London; Clarke, Irwin, Toronto. 144 pages, illus. $6.00

Reviewed by M. Bolus

Charming is not really the word to apply to bears, but in Peter Krott's book bears, people, territory, and photographs are all so appealing that there is nothing else one can say.

Dr Krott is well known for his work in northern Europe with wolverines which he studied for years and about which he wrote a popular book and numerous articles. A few years ago he turned his attention to the bears of the Alps and became possessed of an urge to study the behaviour and natural life of this vanishing species. The last remaining habitat seemed to be the Trentino Mountains of northern Italy. There he searched unsuccessfully for animals he could adopt or who would adopt him. Eventually he acquired a male and a female cub from two zoos and took them to his chosen site in and above high alpine meadows where sheep were pastured in summertime. The infant cubs were young enough to accept Krott as the mother figure and to grow up in harmony with his two small boys. There was no question of making the bears pets as Krott's aim was research into their instinctive behaviour. They were given a den but not caged and the family tried to conform to bear ways. How well they succeeded, the problems of keeping a couple of bears happy, the disapproval of shepherds and foresters, the difficulty of keeping sightseers away form the substance of this entertaining story. Observation of feeding likes and dislikes, play habits, hibernation, provides additional and unusual interest for the naturalist.

The ending is sad. After two years of association with the bears under conditions as close to the natural state as possible it proved that there was no longer room for adult bears in overcrowded Europe's alpine country. It was claimed they were a menace to people and flocks, and they were even accused, unjustly, of damaging the pipelines which carried milk from alpine meadow to valley. There were only two alternatives: to shoot the animals or to deliver them to zoos. The latter was their fate. How fortunate are we in Canada that, so far, there is still room for bears, even grizzlies, as well as men, though there seems to be some doubt as to whether there is room for grizzlies in the Territories.

This book is well translated from the original German edition and is copiously illustrated with beautiful, Swiss-printed photographs.

JOHN ROWAND, FUR TRADER

By Iris Allan, W. J. Gage Limited, Toronto, 205 pages, 1963. $2.75

Reviewed by Shirlee A. Smith

"Bold as a lion" is how Governor George Simpson described John John Rowand, Chief Factor of the Hudson's Bay Company.

Here is a book for boys and girls between the ages of 10 and 14 years which has all the ingredients of early fur trade romance—canoes running the foaming rapids, friendly and unfriendly Indians, and fur trade wars.

John Rowand joined the North West Company in Montreal in or shortly after 1800 when he was about 14 years old. He travelled to Grand Portage, that cosmopolitan rendezvous of the fur trade. He was soon posted to Fort Augustus, where the HBC also built Fort Edmonton. Here he rose quickly to chief clerk and like a number of other prominent fur traders married an Indian girl.

After the amalgamation of the two Companies Rowand was appointed Chief Trader and from 1823 he ruled the vast Saskatchewan District of the fur trade from his headquarters at Fort Edmonton. He was appointed Chief Factor in 1826.

A note in Mrs Allan's book describes it as a "mixture of fact and fiction . . . fiction enters the picture only when facts have been impossible to find". She has done her homework well. The most disappointing part of the book is that she devotes less than 50 pages to John Rowand's career between 1821 and his death in 1854. These were the years when he had "the peculiar talent of attracting the fiercest Indians to him while he rules them with a Rod of Iron and so daring that he beards their Chiefs in the open Camp while surrounded by their warriors".

There are a few errors—Lake Kaministiquia, p. 19, should be the Kaministiquia River; George Simpson was not Governor of the Northern Department of the Hudson's Bay Company before the amalgamation (p. 159); and no confirmation has been found in the Fort Edmonton journals for David Thompson's account (which he received second-hand from an Indian) of the pillage of Fort Augustus, which presumably is the source for chapter eleven.

It has often been said that young Canadians do not recognize the native heroes, and it is hoped that this book will counteract the statement. For John Rowand was energetic, courageous, warm hearted, and honest—all the necessary qualifications for a first-rate hero.

Mrs Smith is the librarian at Hudson's Bay House.

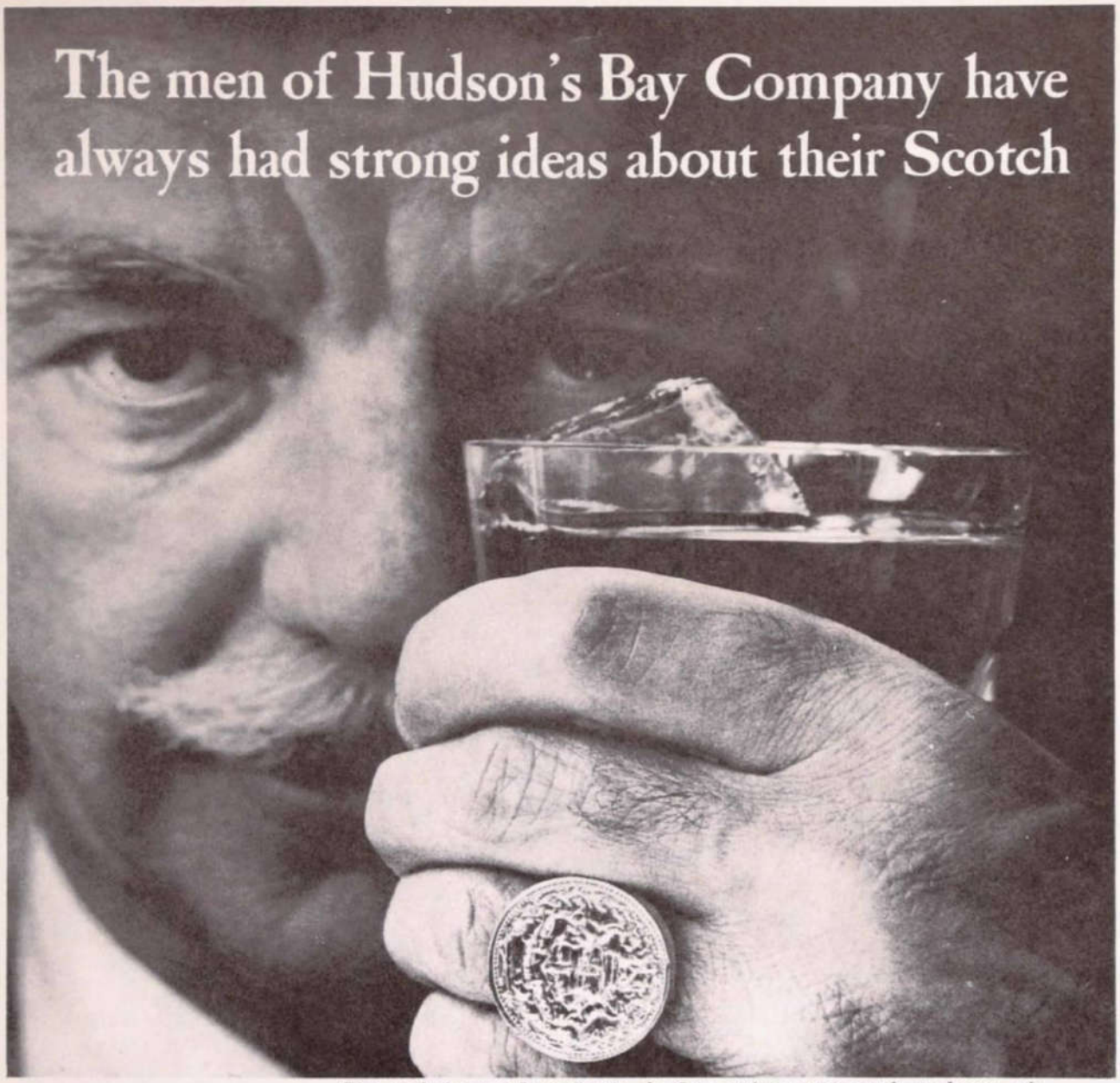
TALES OF NANABOZHO

By Dorothy M. Reid. Oxford University Press, Toronto, 1963. 126 pages, illus. $3.00

Innumberable are the stories about Nanabozho (Nenebuk, Nanaibush), culture hero, supernatural being of the Ojibwa. Endowed with magical powers, Nanabozho is full of mischief and tricks, by turn stupid and bawdy, malicious and comical. Many Nanabozho stories are not particularly suited for children, especially for non-Indian children with their taboos, but Mrs Reid has made a judicious selection and edited them in such fashion that they should entertain the young without shocking their elders. We think young readers, or those who are read to, will enjoy this book which is designed for the 7 to 10 year group.

Fables of how—how fire was brought to the people, how dark patches came to be on birch tree bark—are always fascinating. They should be encouraged, to stimulate the imagination and as a balance to our age's prosaic scientific explanation of all phenomena with its culminating idiocy of how to destroy the world.—*B.*

The men of Hudson's Bay Company have always had strong ideas about their Scotch



Ring made from a "Beaver" coin, the Company's currency worth one beaver pelt.

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